(2) *Research.*			£
(*a*) *Staff*—			
Silviculturist, Entomologist, Mycologist, Soil Chemist at £720			2,880
Assistant Silviculturist at £500			500
Asian Clerks: 4 at £200			800
			£4,180
(*b*) *Buildings*—			
Quarters: 4 at £1,200	4,800		
Quarters: 1 at £1,000	1,000		
Maintenance of above at 10 per cent			580
	£5,800		£580
(*c*) *Miscellaneous*	500		2,000
(*d*) *Summary of above*—			
Staff			4,180
Buildings	5,800		580
Miscellaneous	500		2,000
	£6,300		£6,760
(*e*) Cost per district if above totals are divided between the 57 proposed districts	110		119
(3) *Working Plans.*			
(*a*) *Staff*—			
Working Plans Officer			840
Assistant Conservator of Forests			500
European clerk: 1 at £360			360
Asian clerk: 1 at £200			200
			£1,900
(*b*) *Buildings for Officers*—			
Working Plans Officer	1,200		
Assistant Conservator of Forests	1,000		
Maintenance			220
	£2,200		£220

	£	£
(c) *Mechanical Plant*—		
Half-ton truck, costs and depreciation	350	70
Half-ton trucks, maintenance		150
	£350	£220
(d) *Miscellaneous*—		
Stores and Tools, Local Travelling and Transport, Travelling Allowances, etc.		500
(e) *Summary of above*—		
Staff		1,900
Buildings	2,200	220
Mechanical Plant	350	220
Miscellaneous		500
	£2,550	£2,840
(f) Cost per district if the above totals are divided between the 57 proposed districts	45	50

(4) *Surveys.*

(a) *Staff*—

1 Staff Surveyor 2 Junior Surveyors 3 Sub-draughtsmen 4 Temp. Asian Surveyors	Estimated by Survey Department	3,250
(b) *Stores and Tools and Equipment*		1,250
(c) *Travelling and Labour*		1,500
		£6,000

Notes—

(i) It is expected that the average expenditure during the first 10 years will be as shown above and that after that it will be halved. The average expenditure over 35 years is 3,857

(ii) No mention is made here of the possibility of aerial survey as if that operation is carried out it will probably be Colony-wide and no expenditure from departmental funds will be necessary.

(iii) Cost per district if the above total is divided between the 57 proposed districts 68

ESTIMATED REVENUE FROM PROPOSED ORGANIZATION

(1) Estimated Yield from Short Rotation Softwood Plantations Only

1 Year of planting	2 Acreage	3 Year due for felling	4 Estimated yield (At 8,000 cu. ft. per acre)	5 Value of standing timber (At 20 cts. per cu. ft.)	
			Cu. ft.	£	
1926–30	3,500	1961–65	28,000,000	280,000	Existing plantations.
1931–35	4,200	1966–70	33,600,000	336,000	
1936–40	4,800	1971–75	38,400,000	384,000	
1941–45	9,500	1976–80	76,000,000	760,000	
Total ..	22,000	—	176,000,000	£1,760,000	
1946	3,000	1981–85	224,000,000	2,240,000	Proposed future planting.
1947	4,000				
1948	5,500				
1949	7,000				
1950	8,500				
Total ..	28,000	—	224,000,000	£2,240,000	
1951–55	50,000	1986–90	400,000,000	4,000,000	
1956–60	50,000	1991–95	400,000,000	4,000,000	
1961–65	50,000	1996–2000	400,000,000	4,000,000	
Total ..	150,000	—	1,200,000,000	£12,000,000	
Grand Total ..	200,000 acres	—	11,600,000,000 cu. ft.	£16,000,000 value	

These figures are based on a total yield of 8,000 cu. ft. per acre, including thinnings.

Notes on Above Statement

Columns 1 *and* 2.—The figures shown for the first four quinquennia represent actual planting that has been done up to date. Those shown for the years 1946-50 show the rate at which it is hoped to accelerate planting so that by 1951 a rate of 10,000 acres a year will be reached. The table is illustrative only. It is possible that planting may be speeded up to a greater exent than calculated here.

Columns 3–5.—(1) It will be noticed that the years due for felling, shown in column 3, begin at 1961 and that there are no yield or value entries in columns 4 and 5 for the quinquennia 1946-50, 1951-55 and 1956-60. This is theoretically correct as next to no planting was done before 1926 and therefore no plantations will reach maturity—35 years—during these three quinquennia.

The demand for timber in the Colony during that period must be met, however, at all events to some extent, and it is proposed to cut during it some 16,000,000 cu. ft. of timber as thinnings from immature plantations, thus drawing in advance some of the revenue shown in column 5 for the quinquennia between 1961 and 1980.

(2) If a rate of planting as stated above is reached by 1951 and if plantations are maintained at that rate the trees planted then will reach maturity in 1966 and from then onwards the annual revenue should be at the rate of 10,000 x 8,000 x 1/100 (20 cents per cu. ft.) = £800,000 as compared with an average annual recurrent expenditure of some £274,000. There should be no great extraordinary expenditure as it is proposed to complete most of the projects proposed before 1980.

(2) *Revenue from Other Sources.*

Potential sources of revenue, other than short rotation softwood plantations, and the amounts of revenue anticipated from them annually, are

	£	£
Timber from matured forest	20,000	
Fuel from matured forest and gum plantations	20,000	
Seed and plant sales	7,500	
Miscellaneous receipts	10,000	
Road tolls	18,500	
Rents from dukas, etc.	2,000	
Total p.a.	£78,000	
Total per quinquennium	£390,000	

Total Estimated Costs of Organization

(1) *Extraordinary Expenditure*—	*Extraordinary* £	*Recurrent* £
(*a*) per district—		
1 district	13,570	
1 district's share of establishing 10 divisions	597	
1 district's share of establishing Head Office	63	
1 district's share of establishing Research Office	110	
1 district's share of establishing Working Plans Office	45	
1 district's share of establishing Survey Office	—	
1 district's share of establishing total organization	£14,385	
(*b*) Total cost of establishing 57 districts 57 x £14,385	819,945	
	say, £820,000	

(2) *Recurrent Expenditure.*

	£
(*a*) per district per annum—	
1 district	3,734
1 district's share of maintaining 10 divisions	388
1 district's share of maintaining Head Office	447
1 district's share of maintaining Research Office ...	119
1 district's share of maintaining Working Plans Office	50
1 district's share of maintaining Survey Office ...	68
	£4,806
(*b*) for 57 districts per annum, £4,806 x 57	£273,942
(*c*) for 57 districts for 35 years, £273,942 x 35 ...	£9,587,970

The revenue and results columns in the following statements represent only the royalty accruing to Government for logs sold to the mills. They do not take into account the commercial sale value of the timber as disposed of by the mills, viz. the finished or semi-finished product. Timber, being a raw material, creates work for other industries, such as road and rail transport and building, carpentry, ply and pulp wood, and other wood-working operations. The chemical utilization of wood is also developing greatly. In the course of its progress from the log in the forest to the finished product, timber passes through many hands and can give employment to a very large proportion of the population. The larger the industry and the greater the prosperity of those engaged in all its branches, the greater will be the benefit to the national income and the contribution by way of taxes to the State.

It may as well, by way of illustration, to draw attention to the following.

In the quinquennium 1961-65 the estimated yield from softwood plantations will be 28,000,000 cu. ft. of logs. The output of sawn timber from this will be about half that volume, i.e. 14,000,000 cu. ft., or 280,000 tons. If this timber is sold by the miller at £5 per ton, the commercial value will be £1,400,000 for the quinquennium, or £280,000 per annum.

TABLE I

NET RESULTS, EXCLUDING CALCULATIONS OF INTEREST FROM PROPOSED ORGANIZATION

(FIGURES FOR EACH QUINQUENNIUM)

QUINQUENNIUM	REVENUE			EXPENDITURE			Net result	Running result
	Plantations	Others	Total	Extraordinary	Recurrent	Total		
First Rotation—	£	£	£	£	£	£	£	£
1946–50	—	390,000	390,000	117,000	1,370,000	1,487,000	— 1,097,000	— 1,097,000
1951–55	—	390,000	390,000	117,000	1,370,000	1,487,000	— 1,097,000	— 2,194,000
1956–60	—	390,000	390,000	117,000	1,370,000	1,487,000	— 1,097,000	— 3,291,000
1961–65	280,000	390,000	670,000	117,000	1,370,000	1,487,000	— 817,000	— 4,108,000
1966–70	336,000	390,000	726,000	117,000	1,370,000	1,487,000	— 761,000	— 4,869,000
1971–75	384,000	390,000	774,000	117,000	1,370,000	1,487,000	— 715,000	— 5,582,000
1976–80	760,000	390,000	1,150,000	117,000	1,370,000	1,487,000	— 337,000	— 5,919,000
Second Rotation—								
1981–85	2,240,000	390,000	2,630,000	50,000	1,370,000	1,420,000	+ 1,210,000	— 4,709,000
1986–90	4,000,000	390,000	4,390,000	50,000	1,370,000	1,420,000	+ 2,970,000	— 1,739,000
1991–95	4,000,000	390,000	4,390,000	50,000	1,370,000	1,420,000	+ 2,970,000	+ 1,231,000
1996–2000.. ..	4,000,000	390,000	4,390,000	50,000	1,370,000	1,420,000	+ 2,970,000	+ 4,201,000
2001–05	4,000,000	390,000	4,390,000	50,000	1,370,000	1,420,000	+ 2,970,000	+ 7,171,000
2006–10	4,000,000	390,000	4,390,000	50,000	1,370,000	1,420,000	+ 2,970,000	+ 10,141,000
2011–15	4,000,000	390,000	4,390,000	50,000	1,370,000	1,420,000	+ 2,970,000	+ 13,111,000

NOTES.—(1) This table takes no account of interest payable on loan. (2) The revenue from cypress is based on 20 cents per cu. ft. This is half the present royalty for podo.

TABLE II

NET RESULTS, EXCLUDING CALCULATIONS OF INTEREST FROM PROPOSED ORGANIZATION

(FIGURES FOR EACH QUINQUENNIUM)

QUINQUENNIUM	REVENUE			EXPENDITURE			Net result	Running result
	Plantations	Others	Total	Extraordinary	Recurrent	Total		
First Rotation—	£	£	£	£	£	£	£	£
1946–50	—	390,000	390,000	117,000	1,370,000	1,487,000	— 1,097,000	— 1,097,000
1951–55	—	390,000	390,000	117,000	1,370,000	1,487,000	— 1,097,000	— 2,194,000
1956–60	—	390,000	390,000	117,000	1,370,000	1,487,000	— 1,097,000	— 3,291,000
1961–65	560,000	390,000	950,000	117,000	1,370,000	1,487,000	— 537,000	— 3,828,000
1966–70	672,000	390,000	1,062,000	117,000	1,370,000	1,487,000	— 425,000	— 4,253,000
1971–75	768,000	390,000	1,158,000	117,000	1,370,000	1,487,000	— 329,000	— 4,582,000
1976–80	1,520,000	390,000	1,910,000	117,000	1,370,000	1,487,000	+ 423,000	— 4,159,000
Second Rotation—								
1981–85	4,480,000	390,000	4,870,000	50,000	1,370,000	1,420,000	+ 3,450,000	— 709,000
1986–90	8,000,000	390,000	8,390,000	50,000	1,370,000	1,420,000	+ 6,970,000	+ 6,261,000
1991–95	8,000,000	390,000	8,390,000	50,000	1,370,000	1,420,000	+ 6,970,000	+ 13,231,000
1996–2000.. ..	8,000,000	390,000	8,390,000	50,000	1,370,000	1,420,000	+ 6,970,000	+ 20,201,000
2001–05	8,000,000	390,000	8,390,000	50,000	1,370,000	1,420,000	+ 6,970,000	+ 27,171,000
2006–10	8,000,000	390,000	8,390,000	50,000	1,370,000	1,420,000	+ 6,970,000	+ 34,141,000
2011–15	8,000,000	390,000	8,390,000	50,000	1,370,000	1,420,000	+ 6,970,000	+ 41,111,000
	56,000,000	5,460,000	61,460,000	1,169,000	19,180,000	20,349,000	+ 41,111,000	—

NOTE.—This table is based on the same figures as in Table I except that the royalty value of the softwoods has been taken at 40 cents per cu. ft. which is the present royalty for podo.

From the quinquennium 1986-90 onwards the coresponding figures will be:—

Yield of logs for quinquennium: 400,000,000 cu. ft.
Yield of sawn timber for quinquennium: 200,000,000 cu. ft. (4,000,000 tons)
Commercial value for quinquennium £20,000,000
per annum: £4,000,000

Above expressed in tabular form

	1961-65	1986-90 onwards
Yield, logs, for quinquennium, cu. ft. ...	28,000,000	400,000,000
Yield, sawn timber, for quinquennium, cu. ft.	14,000,000	200,000,000
Ditto—tons	280,000	4,000,000
Commercial value at £5 per ton	£1,400,000	£20,000,000
Ditto—per annum	£ 280,000	£ 4,000,000

NOTE BY LORD FRANCIS SCOTT

I have signed the report as it stands but regret that I am unable to commit myself to the adoption of Mr. Rammell's estimates of expenditure, because I feel certain that if that is the minimum expenditure necessary to achieve our recommendations, it will not be possible for the main Development Committee to accept our report in full for reasons of finance. I therefore hope that Mr. Rammell may be able to produce more economical estimates for expenditure when our report is considered by the main Development Committee.

FRANCIS SCOTT.

NOTE BY MR. H. M. GARDNER

While agreeing entirely with the principles laid down in this report, I cannot agree with the estimate of future timber requirements.

The annual local consumption, including all types of timber and imports, immediately before the war was about one and a third million cu. ft. and it only showed a very slight rate of increase over a number of years.

We have obtained consumption figures from many countries in different stages of development, but the figures are difficult of interpretation and only in very few are the conditions in the least comparable with those of Kenya. It has, however, been a very general experience that consumption has about doubled every 20 years. There is no evidence from any country of any much greater rate of increase than this.

It is possible that for special reasons the rate may be greater in Kenya, but that consumption should increase from one and one-third million cu. ft. to 26½ million cu. ft. in the next 35 years, as estimated by the committee, seems incredible, and the suggestion that Eastern Uganda would be consuming 14 million cu. ft. a year by then appears to me quite fantastic.

I consider that if we plan for an annual production of 20 million cu. ft. of timber of all sorts we shall amply cover all likely local requirements, with a large surplus for export. We have been doing rather more than this in recent years with an average expenditure of less than £50,000. We should be able to continue to do so and to expand other activities, as envisaged by the committee, on an annual expenditure of not more than £100,000.

H. M. GARDNER.

REPORT OF THE HEALTH, HOSPITAL SERVICES AND NUTRITION SUB-COMMITTEE OF THE DEVELOPMENT COMMITTEE

To The Chairman, The Development Committee.

Sir,

We, the Development Sub-committee on Health, Hospital Services and Nutrition, have the honour to submit our report.

2. We were appointed by the main Development Committee in April, 1945, the composition of the Sub-committee being:—

Mr. H. B. Hamilton (Chairman),
The Chief Native Commissioner,
The Director of Medical Services,
Dr. J. R. Gregory, O.B.E., and
Dr. A. H. Ismail.

Mr. H. B. Hamilton and the Chief Native Commissioner were also members of the main Development Committee and were thus in a position to guide the Sub-committee on the general lines of policy determined by the main Committee.

3. The Sub-committee met at the offices of the Chairman on the 12th of June and the 19th of June, 1945, on the 4th of February and the 10th of April, 1946, and, in addition, visits were made to the Kiambu Native Civil Hospital on the 11th of July, 1945, and to Kisumu by air on the 10th of August, 1945.

Part I—The Organization of Health Services

4. The Sub-committee, having received no terms of reference, has considered, before proceeding to detail, the principles upon which the health organization required by this country should be established and the form it should take.

The scope and functions of a Health Service are now generally accepted and clearly defined, although the health of any community depends on many factors outside the responsibilities of such a service. In this matter we follow the guidance of the report of the National Health Commission of the Union of South Africa. The whole of the hospital services and part of the problem of nutrition fall within the field concerned. We shall submit some further suggestions in respect of those aspects of nutrition which are not the direct concern of a health service.

5. There is a clear tendency all over the world for Governments to accept responsibility for the establishment of services and conditions of life which will assure their people sound health. In our view this responsibility should be accepted in this Colony. Once it is accepted there can be no question but that for efficiency and economy of operation all sections of the health services should be co-ordinated into a single whole.

6. The tendency in other countries is to design the State medical services in such a manner that they will operate more or less uniformly throughout the population. We know of no such system which could be applied to Kenya. This country is in a state of political and social growth, the outcome of which is uncertain, and it is impossible to overlook the fact that its three major communities present very great disparities in standards of living and social habit. We consider, therefore, that, as an alternative to the introduction of any uniform or common system, the present progress on sectional lines should continue. We put forward proposals for a single administrative structure to which all communal and independent organizations may be attached. We expect that co-operation will increase and that, as standards in all branches of the health service approximate, so will further integration naturally occur.

Existing Organizations

7. The following central and local Government health agencies at present exist:—

The Medical Department.
The Central Board of Health.
The Standing Committee for Local Government (Municipalities and Rural Areas).
Local Authorities.
The Central Housing Board.
The Standing Committee for Combating Venereal Disease.
The Board of Registration (Medical Practitioners and Dentists).
The Pharmacy and Poisons Board.
The Interim Hospital Authority.

8. The following non-Government agencies at present exist and operate independently of any central organization:—

Mission hospitals.
The Lady Grigg Maternity Hospitals.
Private hospitals and nursing homes.
Private medical and nursing practitioners.
The Social Service League.
The Lady Grigg Nursing Association.

Projected Organizations

9. In order that a complete health service may be provided certain further organizations are required. Of these, the European Hospital Authority is in effect already in existence; others we recommend should be set up and others we consider will inevitably come into existence as the health service develops. We note the appointment by Government of a Committee to consider Asian hospitalization and a Committee to consider the question of medical and surgical fees. It appears likely to us that these Committees will recommend the establishment of an Asian Hospital Authority and a Practitioner Service (on a salaried or insurance basis) respectively, and, while we consider that both such organizations should be established, we do not feel that we can at this stage properly anticipate those Committee's conclusions to the extent of making positive recommendations on matters still under

examination by them. Subject to the foregoing remarks, the further organizations which we consider necessary in order that a complete health service may be provided are:—

The Hospital Authority; Asian.

The School Medical Service.

The Labour Medical Service.

The Practitioner and Specialist Service.

The Dental Service.

The Nursing Council.

The Nutrition Board.

Central Authority

10. Paragraph 2 of Sessional Paper No. 6 of 1945 contains provision for the setting up of a Central Authority for the administration of public health in the shape of the Member for Health and Local Government. The paragraph is of some importance in relation to our examination of the matter and we therefore quote it *in extenso*:—

"2. A careful study of the situation has made it clear that the administration of public health is inseparable from that of local government and that, indeed, local government with its intimate concern for the environment of the population as regards housing, water supplies, sanitation and the prevention of disease is the agency by means of which a large part of the health services can best be made available. It is proposed, therefore, to place the health services maintained by Government and those maintained by Local Authorities within the sphere of the Member for Health and Local Government, who will represent them on both Executive Council and Legislative Council. The method by which the various health services are to be co-ordinated will be a matter for determination by the Member in consultation with the Director of Medical Services and local authorities. The duties and responsibilities which will be allotted to the Central Board of Health under the new arrangements will be a subject for examination in the course of the proposed review."

11. The function of the Government will be to co-ordinate present services under Government and the Local Authorities, and to incorporate in appropriate relationship other health agencies. It will formulate policy for submission to Government and will ensure that the measures approved by Government are carried into effect. It will be responsible for the collection and publication of health statistics, for advice to other bodies upon all matters concerning health and health promotion, for the dissemination of health propaganda, and for the close co-operation of the health services with all other activities of Government which influence the health of the community.

12. Certain inter-territorial organizations at present exist with which the central authority will require to maintain close co-operation:—

Conference of East African Directors of Medical Services.

East African Medical Research Board.

East African Nutrition Research Committee.

East African Tsetse and Trypanosomiasis Research Committee.

East African Examining Board in Medicine.

Special Services

13. In the organization which will require to be at the disposal of the Government there are certain special services upon which we have recommendations to make:—

A—Research.

14. We note that the Secretary of State for the Colonies intends to set up a Colonial Research Service and that large funds will be made available from the Colonial Development and Welfare Vote for the purposes of research. We recommend that the Kenya Government should make available for the work of such a service whatever additional funds may be regarded as a fair contribution from this country to supplement allocations for research from the Colonial Development and Welfare Vote.

15. We recommend that the fullest support should be given to the establishment of an East African Medical Research Institute under the East African Medical Research Board to provide the facilities necessary locally for research and to constitute a technical and intellectual centre for medical personnel.

16. We consider that greater opportunity should be given to local medical workers to devote themselves to research. For this purpose we recommend the addition to the staff of the Medical Research Laboratory of one post of the Medical Officer grade which could be held, for appropriate periods up to say one year, by any suitable local person, at the discretion of the Government with the advice of the East African Medical Research Board. We also recommend further accommodation at the Medical Research Laboratory for this purpose.

B—Nutrition

17. The question of nutrition is dealt with in some detail in Part III of this report. In the present paragraphs we confine our attention to the organization of nutritional work in relation to health services as a whole. We have recommended no special provision for the research aspect of the nutrition problem, since we consider that the personnel required both for field surveys and for laboratory investigation should be derived from those available for research generally, but we endorse the recommendation made at a recent Conference of Directors of Medical Services that an East African Nutrition Research Committee should be set up.

18. The production and distribution of foodstuffs to meet human requirements is not the function of a Health Service. We consider, however,

that nutrition is of such prime importance to the health and welfare of the people that the closest co-operation is required between research and health workers on the one hand and the authorities responsible for the production and distribution of foodstuffs on the other. We are uncertain how this may best be achieved, but we note that in many civilized countries large organizations, such as Ministries of Food and Nutrition Councils, have been set up for this purpose.

19. We recommend that the nucleus of such an organization should be established in the form of a *Nutrition Board*, upon which there should be representation of the research, health, production, distribution and educational aspects of the problem. The efficiency of the Nutrition Board would be greatly increased if closely linked and co-ordinated with the Social Welfare Organization, and we so recommend. Such a Board would require a Secretary, and we understand that suitable personnel with experience in the Ministry of Food in the United Kingdom is at present available. We recommend provision only of a post of Secretary to the Board at this stage, but consider it probable that further staff will be required in the near future.

C—Nursing Council and the Training of Nurses

20. We recommend that a Nursing Council should be set up to advise the Member for Health and Local Government upon questions concerning the recruitment and registration of nurses of all races.

21. We have already made recommendations to this effect in an interim report dated the 20th of June, 1945, to the then Chairman of the main Committee, the text of which we reproduce *in extenso* in Appendix A.

22. The then Chairman of the main Committee, in a letter dated the 26th June, 1945, to the Acting Director of Medical Services, stated, *inter alia*, that it was not entirely clear from the interim report whether the Sub-committee envisaged one institution for the training of nurses of all races or whether it was intended that there should be two or more institutions, each catering for members of one particular race, and he suggested that it was preferable that proposals should be prepared in concrete form. He expressed the view that the proposed Nursing Council hardly appeared appropriate for the formulation of concrete proposals for the establishment of the proposed institution or institutions.

23. The Sub-committee, while noting the views of the then Chairman of the main Committee that the proposed Nursing Council hardly appeared appropriate for the formulation of concrete proposals for the establishment of the proposed nurses' training institution or institutions, nevertheless remained firmly of the view—

(i) that the formulation of such concrete proposals was not a task which could satisfactorily be tackled by the Sub-committee; and

(ii) that it is essential that such a task should be carried out by the body which would be most directly affected if the proposals were executed; namely by the suggested Nursing Council.

24. With these remarks in mind the Sub-committee recommends—

(*a*) that the Director of Medical Services and the Member for Health and Local Government should be invited to consult together with a view to the drawing up of detailed proposals for the establishment of a Nursing Council on the basis outlined in the fifth and sixth paragraphs of the Sub-committee's interim report quoted in Appendix A; and

(*b*) that the Nursing Council should be established under appropriate legislative authority and that for this purpose the Director of Medical Services and the Member for Health and Local Government should be requested to consult with the Attorney General in regard to the preparation of a draft Bill.

Personal and Non-Personal Health Services

25. In respect of the general organization of the health service we accept the view of the National Health Services Commission of South Africa, that the fundamental division of the service lies between personal and non-personal services and that eventually, to ensure economy and efficiency of operation, the whole of the personal services, preventive and curative, should constitute a single organization under the direction of the Central Government (XXVI, 27-29) (*See* Appendix B). We consider that the objective should be that those personal services at present operated by Local Authorities should be taken over and financed by the central service and that all independent organizations should be painlessly assimilated to the general structure. We note that this view has found expression in the recommendations of the Hospital Fees Committee Report. We appreciate that the process must be a gradual one and that for the time being there is much to be gained from contributions by Local Authorities and other local organizations to provide personal services, which they desire and are willing to pay for, in excess of their fair share of the central service. Nevertheless, we consider that Local Authorities should be directed to devote their available funds to non-personal health services and should not be permitted to enlarge their personal services, which are in many respects a more attractive field, at the expense of measures to render more healthy the environment of local residents. We recommend that this policy should be applied to the maximum extent possible by the Member for Health and Local Government.

26. We therefore recommend as regards the *personal services*—

(*a*) that all maternity hospitals, clinics and rural dispensaries at present operated by Local Native Councils should eventually be taken over in accordance with the modern trend, and that all future provision of this sort should be made by the Medical Department and financed by the Government;

(*b*) that responsibility for the personal services maintained by the Nairobi Municipality should eventually be transferred to the central Government;

(*c*) that Mission hospitals and dispensaries should be incorporated into the general service on agreed terms without delay; and that for this purpose representatives of the Government should be appointed at

once to discuss with the Mission authorities the terms upon which such incorporation can be effected (proposals for discussion have already been put forward by the Church of Scotland Mission in respect of the hospitals operated by it);

(*d*) that all European hospitals should be operated under the aegis of the Hospital Authority responsible to the Member for Health and Local Government;

(*e*) that a central authority, responsible to the Member for Health and Local Government, should be set up in respect of Asian hospitals; and that a similar authority should also be set up for a Practitioner, Specialist and Dental Service;

(*f*) that the School Medical Service should be operated by the Medical Department;

(*g*) that other organizations, such as the Lady Grigg Nursing Association and auxiliary services relating to massage and physiotherapy, should be brought into the closest possible connexion with the health service at appropriate points; we consider that this co-ordination can be achieved without the loss of identity by bodies at present independent and it will continue to permit of the co-operation of the public on local hospital boards and similar organizations.

27. *Non-Personal Services.*—We consider that Local Authorities are the natural agents for operating the major part of the non-personal services, including water supplies, the preparation and distribution of food, sanitation, housing, non-personal measures of disease prevention, and the control of environment generally, and that they should be directed to undertake these responsibilities. On the other hand, the Medical Department must be in a position (*a*) to deal with these matters in areas in which local Government is not sufficiently advanced to do so, and (*b*) to exercise inspectoral functions over the whole country.

28. There are certain functions in this field which must remain the direct responsibility of the Government. These functions are—

(i) the implementation of the Colony's commitments under the International Sanitary Conventions;

(ii) the provision of research, surveys and specialist advice and assistance to local authorities in respect of disease prevention (This has particular application to insect-borne diseases and we support the large expansion of the Division of Insect-borne Diseases of the Medical Department recommended in the Five Year Development Plan of the Medical Department.);

(iii) the control of epidemics;

(iv) quarantine services at ports and aerodromes. (These services must be administered by the Government on an international basis and will require to be expanded as civil control replaces Army and Air Force administration at airports, and we have recommended additional financial provision accordingly.)

29. *Finance.*—Recurrent expenditure by the Government in the form of subventions to Local Authorities amounts in 1946 to £33,000. We consider that this figure will prove entirely inadequate if effect is to be given to our recommendations that Local Authorities should take over non-personal services. We consider, however, that subventions should continue to remain related to local rating.

30. In addition to recurrent expenditure under this head, if a determined endeavour is to be made to prevent the major prevailing diseases large sums will require to be expended on capital account and some of the smaller local authorities will require financial assistance for such projects as water supplies, sewerage, anti-malarial drainage, etc. We recommend the provision of £10,000 per annum for such purposes, or a total of £100,000 altogether, of which £37,000 is recommended for the anti-malarial drainage of the Station Area, Mombasa (Appendix L).

Staff

31. We accept the principle that the quality of a health service depends primarily upon the quality of the staff available for that service. We also accept the principle that, apart from administrative and specialist staff (which should be shared and the posts be open to all races on merit), each of the three main communities should look to members of its own community to provide, in personal medicine, the necessary personnel to attend to its own needs. Our recommendations in respect of personnel are therefore mainly directed to the provision of training facilities to ensure that an adequate supply of skilled staff shall be available in each group.

32. *European Staff.*—We recommend that training courses for Health Inspectors should be instituted (at an estimated total cost of £500 per annum for four years) and that the recruitment of apprentice laboratory technicians and field officers should continue to be effected locally. Opportunity should be given to these officers to obtain registrable qualifications in the United Kingdom or in the Union of South Africa.

33. We recommend that at present all other European professional staff should be engaged fully-trained elsewhere. Generally such staff requires to be engaged on first appointment as and when the premises in which they are to work are completed, but certain specialist officers not at present available are needed without delay to review the position in special fields and to make detailed recommendations for development. These include a Tuberculosis Officer, a Chief School Medical Officer, a Labour Medical Officer, a Venereologist and a Leprosy Officer, shared between Kenya and neighbouring territories. We have indicated the degree of urgency of these and other appointments accordingly.

34. *Asian Staff.*—We recommend that Asian Medical Officers with registrable qualifications obtained abroad should be engaged to replace gradually the present staff of Sub-assistant Surgeons. Dr. Ismail considers that it will not be possible to recruit, on the present salary scales offered, Asian medical officers with registrable qualifications. The Sub-committee observes that the same consideration is at present applicable to the recruitment of medical officers of other races.

35. An establishment is required for the systematic training of Asian nurses, and we recommend that the Nursing Council proposed in paragraph 20 of this report should, when established, give early consideration to this matter.

36. We consider that Asian Laboratory Technicians and Health Inspectors should share in the training facilities for Europeans.

37. *African Staff.*—It is clear that the present facilities for the training of African Assistant Medical Officers at Makerere and Mulago will not meet the requirements of an expanded service. We therefore recommend, as an interim arrangement until the output of trained African Assistant Medical Officers is adequate, that the present training establishment for hospital assistants at Nairobi should be largely expanded and that it should, in addition, conduct courses of instruction for African nurses, male and female, African sanitary assistants, laboratory assistants and other varieties of trained African staff. We are informed that the capital cost of such an expanded establishment would be of the order of £70,000 and that the recurrent expenditure in excess of present costs would be about £10,000 per annum.

38. We also recommend that a training establishment for African midwives should be set up at Kisumu.

Health Centres

39. We accept the view of the National Health Services Commission of South Africa that the foundation of the Personal Health Service is the Health Centre. A full description of the functions of the centre is to be found in the report of the Commission (XXVIII) (*See* Appendix C).

40. It appears to us that the general establishment of such centres for Europeans and Asians must await the organization of a practitioner service. Any present planning of the Personal Health Service for these races should be made with this development in view.

41. In the African Service the health centres will take the form of a general dispensary, as in Nairobi, the out-patient departments of general hospitals and rural dispensaries. For the time being these institutions will inevitably be concerned almost exclusively with the treatment of the sick, but we regard it as essential that, whether they are attached to general hospitals or not, they should be designated "Health Centres", and that their function of personal prevention and propaganda should be given every encouragement. They should be provided with the necessary accommodation and facilities accordingly.

42. We consider that the eventual aim should be to provide African centres at a general rate of one centre to every 10,000 of the African population, with such local variation as circumstances may demand. We further consider that, as the functions of such centres are both personal and non-personal in character, the recurrent expenditure and capital cost of these institutions should be borne as to 50 per cent by Local Authorities and 50 per cent by the Government.

43. The simplest form of such a centre is the welfare centre, which will include a rural dispensary. To this should in due course be added dental assistance and a maternity and child welfare centre with an African midwife in charge. The district midwife should operate from it. The district visitor and such services as may be established under the welfare organization should work in close association, together with health workers and sanitary assistants. There will be a considerable time lag before trained staff becomes available sufficient for the full staffing of the number of rural centres which we suggest.

44. The development of health centres from the out-patient departments of existing African hospitals should be susceptible of rapid progress and is to a large extent dependent upon the provision of satisfactory premises. We consider that suitable designs of such centres should be prepared for erection at chosen centres, a large proportion of which must of necessity be located at existing district hospitals. Special designs require to be made for the larger provincial towns of Kisumu, Nakuru and Mombasa. A special design for Nairobi is being undertaken.

Part II—Hospital Services

General

45. We regard it as desirable that separate hospital provision should be made for the three main communities in the country, as at present. The difficulty raised by the existence of racial groups which do not fall easily into any one of these three can be overcome by the provision in each section of a proportion of smaller wards. We consider that when possible the group system should be adopted, with ward blocks for all communities sharing in ancillary services, but we appreciate that a first consideration in the location of hospitals is the comfort and convenience of patients, and we do not advocate the group system when its adoption would, in our view, mean the sacrifice of these by any one of the communities concerned. Dr. Ismail considers that the group system should be adopted wherever possible and that the considerations mentioned in the preceding sentence run contrary to the whole underlying principle of the group system and should not be allowed to carry weight in determining the plan of any new hospital.

European Hospitals

46. The responsibility for the provision and maintenance of European hospitals will eventually fall upon the Hospital Authority. Nevertheless, we put forward our views upon the amount of accommodation required. It is based upon a provision of 10 general beds per 1,000 of population. This figure is high compared with that of the United Kingdom. It is justified because of the scattered distribution of the population throughout a large part of the country. The necessity of economizing in the time of expensive medical staff requires that patients in rural areas should attend the doctor and not the doctor the patient. Many cases which under urban conditions can remain in bed at home and be visited must be accommodated in hospital, and increased provision is required accordingly.

47. In accordance with our views we have included provision for maternity cases where we consider it is required.

Asian Hospitals

48. We expect that proposals on the lines of the recommendations of the Hospital Fees Committee Report will in due course be formulated for the Asian community and we consider this desirable. The relation of an authority in charge of Asian hospitals to the general structure would be substantially similar to that of the European Hospital Authority.

49. In the case of Asian hospitals, also, we have put forward our recommendations. They are based upon a provision of three beds per 1,000 of population. The lower figure in the case of Asians has been adopted because there is at present much leeway to make up, the population being for the most part aggregated into the townships and able to obtain domiciliary treatment, and because, for this reason or others, Asians do not yet so willingly enter hospitals for treatment as do Europeans. Our recommendations are those of the Asian Hospital Committee. Dr. Ismail considers that, while three beds per 1,000 would be sufficient as an immediate objective, the ultimate objective should be the provision of at least five beds per 1,000.

50. Both in the case of Europeans and Asians we have considered the problem presented by the fact that circumstances preclude the provision of satisfactory hospital accommodation except at long space intervals, and the scattered nature of the non-urban population of both groups renders it inevitable that acute cases will occur far from the nearest appropriate hospital. We have, therefore, included emergency accommodation for both groups at every African hospital which may be expected to be staffed by a doctor and nurse. Since it is intended that this accommodation shall be used only when the transport of the patient to the nearest general hospital is impossible or dangerous, the provision suggested is of the simplest sort.

African Hospitals

51. The present number of general African hospital beds is slightly in excess of 3,000 and, on the most recently available population statistics, is at a rate of 0.9 per 1,000 of the population. It is clear that a very large additional provision could be justified, but as an initial aim we recommend that the general rate should be raised to 1.5 beds per 1,000 of the population by the addition of a further 2,000 beds, bringing the total number of beds to some 5,000.

52. Annexed to this report is a schedule setting out the stations at which we suggest this additional accommodation should be provided, but we consider, in order that the fullest use of available beds may be possible, that the additional provision should be subject to any necessary redistribution in the light of actual pressure on accommodation.

53. Four separate grades of hospital are concerned:—

54. *A—Nairobi Group Hospital.*—We note that construction is proceeding which, with the existing ward block, will provide for 660 African beds. We recommend the completion of the ancillary buildings of this hospital.

55. *B—Provincial Hospitals: Kisumu, Nakuru and Mombasa.*—We consider that a standard of construction and equipment should be adopted for these hospitals intermediate between those of the group hospital and district hospital, and recommend accordingly. The group hospital may be

regarded as the provincial hospital for the Central Province. As regards the particular case of Kisumu, the Sub-committee, as a result of its visit to that centre on the 10th of August, 1945, came to the conclusion that there was neither need nor justification for the erection at present of a new 300-bed African hospital at a cost of £300,000, and that the present requirements of the area could be adequately met by expanding the existing hospital (which includes 180 beds for Africans and 12 beds for Asians) by adding an additional 120 beds for Africans and 13 beds for Asians, thus bringing the total number of African beds to 300 and Asian beds to 25. If the existing hospital is to be retained on its present site, however, it is essential that accommodation for infectious cases should be provided at some separate place.

56. *C—District Hospitals.*—We note that every District, with the exception of Central Kavirondo and the Tana River Districts, has now a district hospital of varying size and quality. We consider that the recent ward designs for Kakamega are suitable for this type of hospital.

57. *D—Cottage Hospitals.*—This type of hospital is at present defined as a hospital having 20 beds or less. This limitation is undesirable in many areas and we recommend that any hospital in a district other than the District Hospital should be designated a Cottage Hospital and should be as large as may be required up to a present maximum of 40 beds. The existing design for these small hospitals is satisfactory.

58. We consider that the final aim should be to provide such cottage hospitals at the approximate rate of one hospital to 50,000 of the population. We recommend a smaller number as an immediate objective.

59. In those places in which a cottage hospital will eventually be required, but is not at present practicable, we recommend that Health Centres (Rural Dispensaries) should be erected of such a design that wards and other buildings can subsequently be added to complete the hospital. We note that the present dispensary plan containing six beds would be suitable for this purpose, with minor modifications.

Special Hospitals

60. (*a*) *Maternity.*—We consider that at all district hospitals, and in due course at all cottage hospitals, special provision for maternity cases should be made. We consider, however, that although such provision is made in a separate block, the accommodation should be regarded simply as a part of the total provision, in whatever proportion may be regarded as appropriate in each case. We have, therefore, made no additions to the schedule on this account.

61. (*b*) *Mental.*—Expansion of the Mental Hospital is required and provision is also needed for the temporary accommodation of African mental cases at some district hospitals.

62. (*c*) *Tuberculosis.*—The situation in respect of tuberculosis requires to be examined by an expert. We include a provisional statement of requirements in our schedule of recommendations.

63. (*d*) *Leprosy.*—The situation requires further examination. Provision for the replacement of existing settlements is included in our schedule of recommendations.

64. (*e*) *Rehabilitation.*—The new Rehabilitation Centre now planned should provide an adequate service for some years. Permanent accommodation for the artificial limb section has been included in the schedule.

65. (*f*) *Infectious Diseases Hospitals.*—Appropriate additions to accommodation are included in the schedule.

Immediate Improvements Required to Existing Hospitals for all Races, and particularly Asian and African Hospitals

66. While agreeing with the necessity for the expansion of bed accommodation to the level shown, the Sub-committee desires to draw particular attention to the present unsatisfactory condition of most existing hospitals. The majority of hospitals suffer very greatly from lack of adequate facilities and ordinary requirements for the proper fulfilment of their functions and are, in many cases, far short of reasonable convenience and amenity. Among the shortcomings to be found in most cases are those connected with—

Out-patient departments,
Operating and surgical facilities,
Storage accommodation,
Lack of proper kitchens and proper food distribution,
Proper sanitation and similar facilities,
Administrative facilities,
Maternity and isolation accommodation,
Heating and lighting,
Serious shortage of housing for African staff.

The Sub-committee expresses complete agreement with the strong representations made to it by the Director of Medical Services on these matters, and agrees that serious inconvenience to patients and staff results therefrom, and that the position militates against the best possible functioning of these hospitals. The Sub-committee therefore considers that, while these shortcomings exist, the construction of further wards should be to the absolute minimum required in the meantime, and that concentration on the rectification of the defects described above should be the immediate aim. In addition, it is desirable that immediate steps should be taken to provide simple "banda" accommodation at existing hospitals for ambulatory cases, thus relieving the present serious pressure on existing hospital bed accommodation. It is not, without detailed investigation, possible to give a firm estimate of the cost, but the Sub-committee is informed that the amount involved for this purpose is unlikely to fall far short of £200,000. It recommends, therefore, that first consideration be given to the provision of the necessary funds, though such action should not be permitted to hold up the provision of additional and new hospital accommodation in areas where it is most urgently required. The Sub-committee must point out that, unless this is given priority the construction of further wards would only render the present position considerably worse.

Part III—Nutrition

67. We have already in paragraphs 17 and 18 of this report touched upon the organization of nutritional work in relation to the health services as a whole. In the succeeding paragraphs we examine the question in its more particular aspect.

68. That grave malnutrition exists throughout the Colony is a fact that cannot be controverted. Such malnutrition is due in great part to the lack of a balanced diet rather than to a lack of bulk, although the latter condition is not unknown at certain periods in some districts in drought years. The medical implications of malnutrition include deficiency diseases, lowered resistance to disease, high incidence of sickness, a great severity of illness and a higher mortality rate; and, further, it manifests itself in lowered general vitality and a lack of vigour. All these conditions can be found abundantly among the African population of Kenya and also among the Asian population. Deficiency diseases appear mainly as skin diseases, ulcers, generalized nutritional oedema, arrested development, both physical and mental, bleeding or unhealthy gums, to mention those that are all too common.

The lessons of the concentration camps of Germany demonstrate that persons fed for even a short time on a diet completely lacking in vitamins will die. In other words, vitamin starvation must be recognized as of greater importance than food starvation. A small balanced diet, rich in vitamins, will result in greater health and well-being than a large bulky diet deficient in vitamins. The Sub-committee is of opinion that this is the main problem in Kenya.

69. The eradication of malnutrition lies not with the medical profession but with statesmen, economists, bankers, primary producers, distributors and agriculturists—and most of all with the Government as the mainspring of national activity. The problem presented is one of production, distribution and education.

Evidence of the Existence of Malnutrition

70. In the absence of any statistics or wide survey it is not possible to give a scientific statement as to the degree of nutrition or malnutrition that exists in the Colony. Nevertheless, the following quotations from recent reports may be accepted as a reliable indication of the conditions which prevail:—

(*a*) *From the Medical Department's Annual Report for* 1944.—"Over 1,300,000 patients received treatment during the year in institutions operated or supervised by the Department." "The number of cases of malnutrition reported from Native Hospitals is increasing." "A great deal of the prevailing ill-health arises from malnutrition."

(*b*) *From the Medical Department's Annual Report for* 1943.—"The general nutritional state of the African population left much to be desired and there was a considerable amount of evidence to show that their powers of resistance to disease were markedly lowered."

(*c*) *From the Medical Department's Annual Report for* 1942.—". . . . that undernourishment and malnutrition are widespread and directly or indirectly the cause of much unfitness and ill-health is clearly indicated by the results of every physical or nutritional survey of these people which has so far been carried out." "Apart from malnutrition which is probably widespread throughout the Colony . . . ."

(*d*) *From "The Diet of the African Soldier," by Lt.-Col. T. Farnworth Anderson—East African Medical Journal of July,* 1943.—"The medical

examination of large numbers of recruits in all the East African territories has amply demonstrated that malnutrition is widespread among the African populations. In some parts of East Africa as many as 90 per cent of recruits have had to be rejected on medical grounds. A fairly high proportion of these rejections have been on account of malnutrition."

71. Malnutrition in Kenya is an urgent problem of enormous extent, the consideration of which should not be further postponed. It is reasonable to presume that there is a far higher percentage of ill-nourished people than of people who are normally and adequately nourished, and the Sub-committee wishes to stress that a comprehensive nutritional survey (and this includes an early and complete census) is essential if any real progress in the tackling of this problem is to be made.

Human Dietary Requirements

72. Scientific knowledge of human food requirements is now fairly complete, and the facts can be ascertained in the many text books which are available on the subject. Therein will be found a classification of foods into energy-producing, body-building and protective food substances. Nutrition, it will be found, is not a mere matter of calories but of balance, with adequate protein and protective substances. It is only during the last 20 years that a general recognition of the importance and place of the vitamins in dietaries has enabled anything like exact definitions of "proper diets" for man to be made. As an African domestic art dietetics is in its infancy and offers a wide field for investigation, research and education. The productive forces are in the main agriculture, animal husbandry and fisheries.

73. The following ration scale, founded on experience with the Army in the East Africa Command, is selected as a guide and as one that embodies all the principles essential to a balanced diet:—

Commodity	Ounces	Protein, gms.	Fat, gms.	C.H.O., gms.	Calcium, mgm.	Iron, mgm.	Vitamin A	Vitamin B.1	Vitamin B.2	Nicolinic acid	Vitamin C, mgm.	Calories
Maize meal ..	16	51	18	339	468	16	—	144	1	3·0	—	1,250
Rice	4	8	1	98	4	—	—	80	—	2·4	—	412
Meat, fresh ..	8	37	13	—	13	6	90	83	3·0	12·0	—	275
Ghee or substitute	1	—	28	—	—	—	3,000	—	—	—	—	264
Vegetables, fresh	4	1	—	4	45	1	520	26	1	0·5	18	19
Potatoes, or ..	6											
Sweet potatoes, or	6											
Peas, or ..	4											
Beans, or ..	—	21	8	53	79	4	209	166	0·1	3·1	26	361
Groundnuts, or ..	4											
Choroko peas ..	3											
Oranges	3	1	—	9	45	—	68	15	—	—	49	38
Sugar	2	—	—	54	—	—	—	—	—	—	—	224
Salt	1	—	—	54	—	—	—	—	—	—	—	—
Tea	1	—	—	—	—	—	—	—	—	—	—	—
Totals ..	—	119	68	557	654	27	3,887	514	2·4	21·0	93	3,113

74. *Diets for Pregnant and Nursing Women.*—In 1936 standards were laid down by a Technical Commission appointed by the Health Committee of the League of Nations, in which foods were divided into two groups: (*a*)

the protective foods and (*b*) the energy-yielding foods. The dietary scheme is based on milk, meat, eggs, cheese, potatoes, dried legumes, cod liver oil and a source of vitamin C, with cereals, fats and sugar as needed.

Dietary Scheme for Pregnant and Nursing Women

(*a*) *Protective Foods*	*Amount*
Milk	1.70 pints
Meat, lean	4.2 oz.
Eggs, one	1.7 oz.
Cheese	1.1 oz.
Green vegetables	3.5 oz.
Potatoes	8.8 oz.
Legumes, dried	0.35 oz.
Cod Liver Oil	0.12 oz.

Raw fruit and vegetables for Vitamin C.
Making a total of 1,440 calories.

(*b*) *Energy-yielding foods*	*Amount*
Cereals	8.8 oz
Fats	as required
Sugar	as required

This amount of cereals would yield a further 1,000 calories, and the intake of fats and sugar should bring the grand total to 3,000 calories, which is the requirement of a woman in late pregnancy.

In the Rhondda Valley, distribution of food alone reduced maternal mortality more efficiently than improved midwifery facilities.

75. *Dietary Schemes for children* of different ages are not outlined here, but are readily available for anyone who wishes to study them in the Medical Research Laboratory library.

76. The duty of the State is to ensure that as far as they are known, these requirements should on the average be fulfilled for the individuals of the community. An improvement of the physical standard of the people would undoubtedly result in efficiency and stimulate production in all directions. The effect of a balanced ration combined with Army training on recruits is spectacular. It is the general experience that they gain rapidly in weight, health, vigour and hardiness. The future labour supply of the country and the quality of its people depends largely on nutrition.

Solution of the Problem

77. (*a*) *Production.*—Dr. D. Harvey, biochemist to the Medical Department of Kenya, writes:—

> "The first question is whether or not enough food is produced. If the requirements of the population are taken at the highest estimate of 2,900 calories per head per day, then for a population of roughly 3½ millions, the total annual requirements are 3,705 thousand million calories. Although there are no data for total food production, the evidence that exists . . . tends to support the belief that there is in a normal year more than enough to meet the *energy* requirements of the whole population."

Milk.—Having indicated that the number of cows required to produce the necessary ration of milk would be 875,000, Dr. Harvey goes on to say:—

"But in 1938, the total number of European and squatter-owned cattle was 497,478, and a census in two native areas showed the number of cattle to be 621,679 in North Kavirondo and 514,252 in Masailand, a total of 1,633,409 for these three classes alone."

This should ensure an adequate supply of milk.

Meat.—The provision of 4 oz. of meat per head per day would provide a more difficult problem, but one which could be surmounted by an improvement in the type of cattle, and concentration on beef-producing breeds, as well as an increase in the numbers produced.

Potatoes.—Potatoes are grown only in certain parts of the Central Province, and 9.6 thousand tons were passed for sale in 1938. This would appear to be an exceptionally cheap foodstuff, the consumption of which should receive every encouragement.

Vegetables.—No figures for vegetable production are available.

Tea.—4.8 thousand tons produced in 1938 is not sufficient for local requirements.

Sugar.—14.9 thousand tons produced in 1938 falls short of estimated requirements, but large quantities are imported from Uganda.

78. (*b*) *Distribution.*—The principle has long been accepted that the cost of sanitation, control of infectious diseases, and provision of better housing is a legitimate charge on public funds. The extension of the same process in the sphere of nutrition is logical.

(*a*) *Free or Subsidized.*—(i) The practice of free distribution could be started in school by the provision of a mid-day meal providing those elements of diet that are found to be absent in the home diet.

(ii) The provision, at present experimentally, of a mid-day meal to labour on large estates should be encouraged, or if necessary made compulsory. Employers of labour should be advised to make first advances in wages take the form of free rations, cooked and distributed so as to improve physical standards and health.

(iii) Municipalities should provide kitchens where meals could be purchased by labourers at cost, or a ticket system could be introduced so that employers could buy rations and issue them to their employees, thus improving terms of employment by a method that would guarantee that the increase was used to the best possible advantage of both parties.

(*b*) *Increased Wages.*—Serious efforts should be made to put before all people the opportunities for improved consumption which modern knowledge makes possible to them, and efforts should be made everywhere to rally public opinion in the support of measures to raise the standard of living.

(*c*) *Prevention of Inflation.*—If increased wages resulted in increased costs, the advantage from a nutritional point of view would be rendered null and void. Government would have to exercise some degree of control.

(*d*) *Increased Earning Capacity.*—This would come with better nutrition, resulting in better physical well-being, better health and better wages. The average employer of labour does not object to increased wages provided he can get a better day's work, and with the dearth of labour that exists this is a primary essential.

(*e*) Subsidy.—This might take several forms, either or both as a subsidy to the producer or the consumer or as an excise. In some cases it might be necessary to extend the subsidy to the commercial community to encourage the sale of easily destructible products.

(*f*) *Better communications.*

79. *Education*: (1) *Individual.*—The fact that some hundreds of thousands of African soldiers drawn from nearly two hundred different African tribes have accepted a common army ration with but few exceptions, shows that dietary habits, prejudices and inertia are not invincible obstacles to dietetic progress among the Africans.

(*a*) Mothers should be educated in the correct feeding of infants and children.

(*b*) Children of school-going age should be given a mid-day meal.

(*c*) Adult labour should be given a free or cheap meal.

(*d*) Essential constituents of diet that are absent from the normal diet should be provided for pregnant and nursing women at clinics.

(*e*) Milk clinics for urban children should be established.

(2) *Cooking.*—As a domestic art among Africans it is in a very elementary stage. Much malnutrition is caused by ignorance and inefficiency in the preparation of food. Schools of cookery to provide technical instructors who could go into the native areas and educate the women would result in a great advance.

(3) *Masses.*—Mass education could be effected through lectures, pamphlets, pictures, cinematographs, wireless, press, demonstrations and other propaganda methods.

(4) *Better Farming.*—Guidance as to what crops to grow would prevent a glut in any particular one and keep production and prices of essential foodstuffs at a steady level. Proper rotation of crops to maintain the fertility of the soil would increase the nutritive value of the food produced.

80. It should be the duty of the Medical Department to guide and advise as to what constitutes a good diet; of the Education and propaganda departments to instruct the public; and of the Agricultural and Veterinary Departments to guarantee production and processing. Distribution would be a function of many Government departments and of the commercial firms. A nutrition committee, as recommended in paragraph 17 of this report, representative of these departments, should be established, together with an economist to guide and assist the people in reaching the desired goal of better nutrition.

81. *Results.*—The regular weighing of labourers, children, mothers attending clinics, persons in institutions, and as many of the population as possible would give a clear indication as to the state of their nutrition and would assist in quickly selecting for further medical investigation those suffering from wasting diseases. The need for a nutrition survey is very great, and should be initiated at the earliest possible date, but in the interim and while awaiting its findings, this sub-committee is of opinion that the suggestions contained in this report can be made operative.

82. *The Wider Aspect of Health.*—This report, while it presents the needs of Kenya for a number of years, is to some extent limited and parochial, and the sub-committee, though not unmindful of the desirability of putting forward a policy which will integrate with the public health policies of the other great African colonies, feels that it is in present circumstances scarcely in a position to do so. Public health has no territorial boundaries, and though some measure of East African inter-territorial co-ordination has been achieved in the fields of medical research, sleeping sickness, tsetse fly control and leprosy, this is clearly not enough. We note that His Majesty's Government in the United Kingdom has seen fit to appoint a Commission to examine the position of education in the African Colonies of the Crown, and we feel that the health of those Colonies may reasonably expect equal, if not greater, consideration. We therefore respectfully recommend that the main Development Committee should urge the Government of Kenya to make representations to the Secretary of State for the Colonies for the early appointment of a Royal Commission to inquire into and report upon the state of health and the nutritional condition of the populations of all the British dependencies in Africa and to make recommendations for the provision and organization of adequate health services for all sections of the populations of these dependencies, in accordance with the modern conception of "health," for the training and recruitment of medical, nursing and other health personnel and for the establishment of adequate machinery for the provision of advice in all these regards to the Secretary of State for the Colonies.

H. B. HAMILTON (*Chairman*).
W. S. MARCHANT.
N. M. MACLENNAN.
J. R. GREGORY.
A. H. ISMAIL.

K. W. SIMMONDS (*Secretary*).
10th April, 1946.

APPENDIX A

INTERIM REPORT DATED THE 20TH JUNE, 1945

The Health, Hospital Services and Nutrition Sub-committee of the Development Committee at a meeting held on the 12th of June gave consideration, *inter alia*, to the present acute shortage of nursing staff and formed the opinion that the matter was one of such urgency, not only from the point of view of development planning but also from the point of view of the maintenance of existing services, as to justify the submission through you to the Government of an interim recommendation on the subject without awaiting the time when the sub-committee can tender its final report to the main Development Committee.

Briefly the position, as reported to the sub-committee, is that the Maia Carberry Nursing Home is threatened with the necessity of closing down owing to the inability of the managing authority to obtain nursing staff, and that a similar, though not quite such an acute, dilemma faces many other hospital institutions, both Governmental and private, in the Colony. The shortage derives from a variety of causes, chief among which are—

(*a*) the fact that the bulk of the nursing staff in the Colony up till the present time has been composed of European females;

(*b*) recruitment of European female nurses from the United Kingdom has already ceased owing to war conditions, and local European females who might in other conditions have entered the nursing profession have instead taken on more lucrative employment in war-time organizations, both civil and military.

Full professional training of nurses is, in normal circumstances, obviously desirable not only with the object of maintaining as high as possible a standard of nursing, but also from the point of the individual nurses themselves, whose prospects of full and remunerative employment without generally accepted professional qualifications are small. There is reason to believe that the shortage of nurses will persist for a considerable period, and the sub-committee is therefore convinced that the situation can be met only by the training and *employment of Indian, Seychellois and African women in addition to European women in a subordinate nursing capacity as "auxiliary nurses."

Any training given must be local, firstly because of the need for producing the largest possible number of nurses in the shortest possible time, and secondly because the educational standards of the majority of women of the type which the sub-committee has in view are not such as to qualify the women in question for acceptance into establishments for the training of nurses either in South Africa or elsewhere outside the Colony. A boarding establishment would be required, not necessarily attached to a hospital, where trainees could be taught the basic principles of simple nursing, on completion of which preliminary training the probationers could be tried out in a hospital. For various reasons it is desirable that the training given and the subsequent employment of the trainees in the service of auxiliary nurses should be on an East African basis. The sub-committee desires to stress that its suggestions are not intended in any way to imply that suitable women should be prevented from taking advantage of full professional overseas training or that any women who undergo the local modified course of training should be discouraged or debarred from subsequently proceeding to full professional training. Its object is solely to suggest that sources of woman power at present largely untapped should be drawn upon to meet the present shortage and, it is hoped, to play an increasing part in the future public health services of the Colony.

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* In the light of further examination of this matter the sub-committee considers that these lines should be amended to read: "employment of European, Indian, Seychellois and African women in a subordinate nursing capacity as 'auxiliary nurses'."

The sub-committee further desires to recommend that a Nursing Council analogous to the General Nursing Council in the United Kingdom, should be established immediately on a Kenya basis, but with a view to its ultimate extension on an East African basis, and that such a Nursing Council, if created, should be charged with the primary duty of working out the details of the suggested Auxiliary Nurses' Service, and that it should also be the duty of such Nursing Council to lay down general standards of training, examinations and qualifications and to advise on salaries and terms of service.

The sub-committee further desires to recommend that the Nursing Council, if established, should be constituted as follows:—

Director of Medical Services (*Chairman*).

Three State-registered nurses.

Representative of Education Department.

*One local practitioner (representative of British Medical Association).

APPENDIX B

Extract from Report of National Health Services Commission, South Africa

27. Coming now to personal health services, it must at once be recognized that their provision locally is of much greater importance to national interests than the provision locally of public utilities, and that none but the very largest local authorities command the resources necessary to provide the entire range of personal health services, in accordance with the modern conception of health. We have commented many times upon the administrative complexity and the technical inefficiency of any arrangement which assigns to one authority a mere fraction—say maternity and child welfare services, or school medical services, or even hospitals—of the totality of personal health services, and other fractions to other authorities. The very foundation of the recommendations of this report is that there should be a single National Health Service under a single administration. It seems scarcely necessary to labour the point further. Praiseworthy as have been the efforts of the local authorities to supply personal health services in the past, their total expenditure on such services—some £340,000 per annum—is a mere fraction of what would be necessary if they were to attempt to provide the entire range of personal health services, even on a 50-50 basis in co-operation with the Government.

28. We propose that the local authorities should be relieved of this expenditure, by assigning entire responsibility for the personal health services of the future to the National Health Service. The savings thus effected should be diverted by the local authorities to increased expenditure on promotive, non-personal health services. It may be objected that there is no guarantee that the local authorities will utilize such released funds for the purpose

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* Further consideration leads the sub-committee to suggest that the constitution of the Council should also include:—

One local Indian practitioner nominated to represent the Indian medical profession, in view of the special problems attaching to the recruitment and training of Indian nurses.

indicated. We do not share the pessimism implied by this attitude. We have already drawn attention to the anxiety of most local authorities, to do as much for health in their areas as is possible with their limited resources. So many of the non-personal health services have also an amenity value that this in itself is a guarantee that they will be supplied, if funds permit. Moreover, it will be a principal function of the National Health Service, working through its Health Centres, to educate the general public as to the vital importance of non-personal health services.

29. With the resultant knowledge and the increased financial assistance, the future of local authorities appears bright and their potentiality for service to the people, considerably increased.

APPENDIX C

Health Centres

THE ORGANIZATION OF THE NATIONAL HEALTH SERVICE

(The Commission's advice upon the organization of the National Health Service)

Chapter XXVIII—The Health Centre as the Foundation of the National Health Service

1. The health centre will be the basic unit and it will be here that the actual personal health services will be rendered. We recommend that Health Centres be instituted according to the criteria laid down hereunder and that all medical and other health services be concentrated in such Health Centres.

Many advantages accrue from such an arrangement. Great saving could be effected in medical and auxiliary personnel. Instead of functioning at scattered points such as private consulting rooms of doctors, dentists, physiotherapists, radiologists, pathologists, etc., health personnel would be grouped together in teams at these centres and practically all the personal health work, exclusive of purely hospital services, organized from them as bases. This will make possible the arrangement of regular hours, rapid consultation, and a complete and full-time service for the public.

2. Much could also be saved materially in that duplication of equipment and instruments could be avoided. Standardization and bulk-buying will make it possible to procure better equipment at a lower cost than is possible at the moment with individual choice and retail buying. Doctors and others will not need to meet the heavy overhead expenditure in connexion with rental, lighting, heating, etc., all of which are factors in the cost of medical care. The National Health Service will have to meet the cost of the overheads mentioned, so that the cost of medical care would be reduced if the National Health Service could eliminate duplication and excessive costs—e.g. by building or acquiring its premises. This could only be less costly if elaboration were avoided. The arrangement would also lead to greater efficiency because the best diagnostic and therapeutic equipment would be available to all practitioners, much of which at the present moment may be beyond the powers of individuals.

3. Much of the time of doctors in private practice is occupied, and, in a medical sense, wasted in writing out certificates, filling in forms, etc. Under the new regime all Health Centres will, in addition to the technical staff, be provided with trained clerical assistants, able to take down verbatim reports dictated by doctors immediately after an examination or treatment. It will be the duty of these assistants to keep these records in easily-accessible form and to prepare from them essential data for despatch to the statistical sections of the Regional and Central (National) Headquarters, to undertake all correspondence in connexion with cases, etc. In this way, efficiency of the health and medical services will be increased, while at the same time doctors will be released from purely clerical duties and enabled to devote more of their time to clinical work and health education. In view of the shortage of doctors, dentists and nurses, this is a matter of prime importance. Clerical assistants for this work could be trained in special courses to be planned at Technical Colleges, and one of the functions of the National Health Service will be to make arrangements for such training. The course need not be long, and only the best candidates should be selected. Good pay will be an economy, for these persons will contribute much to the general efficiency of the new Health Service.

4. Radiographers and laboratory assistants will be available on the spot. To-day the practitioner in private practice may do his own radiography and side-room work, or he may send them to be done by specialists. Neither of these methods makes for the greatest efficiency and may cause delay and waste of time, to the annoyance of both patient and doctor. Under the new regime there will always be available on the spot trained personnel, thus increasing efficiency and saving time and money.

Obviously, it will be possible to plan the work so that the same doctor will not be on call 24 hours per day 365 days per year, as is the case with most practitioners to-day. Only in the smallest "one-man" centres will this appear to be the case, but even here it will be possible through the relief staff of the Service to arrange for regular leave. This will naturally lead to less fatigue, fewer mistakes will be made, and greater efficiency will result. Similarly, it will be easy to arrange for study leave, a necessary adjunct of a national health service.

5. The chief criticism against the present system is probably the divorce of general medical practice from the personal preventive health services. It will now be possible to effect a better integration through the Health Centres on the following lines:—

(a) *Statistical Medical Research Services* through records kept at the Health Centres and forwarded to the Regional and National Headquarters will act as a finger on the pulse of the health of the nation. On this valuable and vital information, covering, as it should, *all* sections of the people, the National and Regional planning authorities will base their programmes for research, for training of personnel, and for the development of local health services, thus leading to increased national efficiency.

(*b*) *Health Education—general and specific.*

(i) General health education will be carried out at the Health Centres through posters, pictures, models, etc., attractively displayed in waiting-rooms and by means of talks, demonstrations, films, etc., at suitable times chosen by the Health Centre Council, and in charge of the technical personnel of the Health Centre and of the local environmental and sociological services.

(ii) Specific individual education will be carried out by doctors, health visitors and district nurses when dealing with patients, at routine medical examinations, and at special medical examinations. The doctors will have available reports as to home conditions, etc., made by health visitors and district nurses. Doctors will have no economic incentive to rush through as many patients as they can, and so will have time to undertake health education with the individual patient.

(*c*) *Local Non-Personal Health Services.*—Any undue incidence of disease such as infantile diarrhoea, caused by inefficiency or inadequacy of these services, will become obvious at once, through the statistical service of the Health Centre, and appropriate steps can be taken immediately. With few exceptions under the present regime, this correlation is only slowly perceived, if at all, and becomes the basis for remedial action only when it becomes a public scandal.

(*d*) *Sociological Services*, including industrial hygiene and welfare, will also be instituted and will function much in the same way as indicated in the previous paragraph. The data accumulated will be at the disposal of the Health Centre, and appropriate action initiated there. It will be necessary to maintain constant liaison with social and industrial welfare workers; and indeed it would be advantageous if the local officers of the health, social welfare and industrial hygiene service could be grouped closely together.

Size and Staffing of Health Centres

6. Because of the great variety in geographical factors, composition and density of population, and general health conditions, it is impossible to prescribe one standard type of Health Centre. It will be necessary to have different types to meet the differing conditions of—

(i) the cities and towns;

(ii) the villages and country;

(iii) the native areas.

The number of people to be catered for by each centre will vary according to the circumstances. It is necessary to determine the number of people to be served by each centre. In the following considerations it is assumed, taking the Union as a whole, that there is only one doctor for every 3,000 of the population, and that the National Health Service will endeavour to distribute the doctors according to the needs. It will take some time to achieve this, for at present the distribution is very uneven, varying from 1 per

500 in Cape Town to 1 per 35,000 in some native areas, and any attempt to adjust this abruptly may lead to serious repercussions. At the commencement, therefore, it will be necessary to sacrifice the ideal to practical considerations. The inequalities of distribution must be overcome, not so much by the transference of urban doctors to rural areas as by increasing the production of personnel, and by a wise dilution of the medical service. We are not in agreement with the opinion of the "Committee on the Admission of Students to the Medical Schools of South Africa" (Hugo) that the ratio of one doctor per 2,500 of the population will give adequate service to *all* members of the population of South Africa. A large body of evidence was adduced before us, and most of the authorities are agreed that the ratio of one doctor to 1,000 people is correct. Be that as it may, it is clear that a large shortage of medical men exists in the Union, and it will be necessary to take steps to remedy this state of affairs. Strong evidence was tendered, and common sense confirms, that it is better that the native people be treated by men of their own race. It will therefore be necessary, in the near future, to increase the facilities for training, especially of native doctors. As will be seen, not all doctors will be available for work at Health Centres; some will be concerned with preventive work, while others will be employed in administration, hospitals, etc.

7. *City and Town Health Centres.*—Each of these should serve an area of about ten square miles which may contain a population of 10-25,000 people. *These, and indeed all other, criteria in this connexion should be very elastic so as to allow for the size and nature of the Health Centre to be adjusted to the needs of the community.* Adopting the ratio of one doctor per 2,500 population, because of lack of personnel, the Health Centre will be staffed by: 4-8 doctors, 1 dentist, 1 registrar, 1 sister-in-charge, 2 nurses for casualty department and theatre, 8-16 health visitors, 4-6 district nurses, 1 pharmacist, 1 hygiene officer, 1 radiographer, 1 laboratory assistant, 1 physiotherapist, 1 dental mechanic, 4-8 clerical assistants, 3-4 caretakers (who will also act as drivers of ambulances and disinfectors), 3 telephonists, and some natives employed as messengers, etc.

Serving, perhaps, more than one Health Centre in a city or town, but attached to one of them, will be a social worker who will collate the social data supplied by the health visitors and act as liaison officer with social welfare work.

8. The Health Visitors will help the doctors when these are consulting and may, under the supervision and direction of a medical practitioner, themselves assist at infant and other clinics when the doctor to whom they are attached is not at the clinic. A number will be employed in domiciliary visiting as distinct from district nursing. They will be the main link between the Health Centre and conditions in the home. Thus, in the morning when some of the doctors and health visitors will be on duty at the Centre, others of the same type of personnel will be occupied in visiting and doing domiciliary health education work, while in the afternoon the roles will be reversed. The nurses will do district nursing and will further be employed in doing routine dressings at the Centre.

9. The buildings of the Health Centre must contain the following rooms: casualty station, minor operating theatre, small X-ray room and dark room, telephone exchange, record room, physiotherapy room, consulting rooms (4-8—i.e. one per doctor plus spares for specialists and other purposes), waiting rooms, infant and child welfare rooms, medical staff library and writing room, medical staff common-room, room for sister-in-charge, common-room for nurses on staff of Centre, laboratory, lecture room, dental surgery and workroom, pharmacy, lavatories, bathrooms, etc.; accommodation for administrative and clerical staffs, etc., and, in some, students' rooms; parking garage for staff cars and ambulances.

Attention has been drawn to the existence in various military camps of a type of attractive but simply designed building known as "K" huts, which have been put to cognate uses in the Army. It is suggested that the possibility should be explored of turning buildings of this type to good account after the war, in connexion with some of the smaller health centres.

10. Each centre will be equipped with one or more ambulances, which will serve to convey patients to hospital, and assist those who have difficulty in walking to attend the Centre. As it is the intention that all calls for medical aid should be directed to the Centre and not to the individual doctor, telephonists will be on duty 24 hours of the day, and it will, therefore, be most convenient to station the ambulance at the Centre. In the larger urban areas it will be necessary to specialize the services at the various Health Centres in different parts of the town. Thus, in an industrial area, more provision will be made for X-ray facilities (perhaps even to the extent of a permanent radiologist) and extra physiotherapist services, while in residential parts the Centre would have extra facilities for maternal and child welfare work. The Health Centre building should be away from any hospital, as most hospital sites in large towns are already overcrowded, but it might be advantageously combined with a Community Centre providing recreational facilities and lecture halls.

11. *Village and Country Health Centres.*—These will, of necessity vary considerably in size and equipment, ranging from the one-man station to the Centre in a large country town where the Centre will be only *slightly* smaller than that described in the previous paragraphs. They will serve quotas of people varying from 3—25,000. The personnel of these Centres will be in accordance with the scale laid down in the case of the city Health Centre and the equipment will vary according to the needs and size of the Centre. It might be advantageous to have these Centres in connexion with the local hospital or with a Community Centre, the main considerations being the service of the people and economy in buildings. Where the Centre is not in the immediate vicinity of a hospital is will be necessary to provide a small number of beds at the Centre to serve urgent and maternity cases. In the smaller one-man Centres, it may be necessary to provide a house for the doctor and quarters for the other personnel. The type of ambulance might also vary according to the size of the Centre. In the smallest, the ambulance might well at the same time serve as a conveyance for the doctor. In many of the village Centres it will be necessary also to instal a mobile

disinfecting apparatus, which could serve the whole district. In the country, the Centres will have to provide satellite clinics at intervals of approximately fifteen miles, at each of which will be stationed a nurse-midwife, and, when available, a type of health assistant parallel in training and function to the native health assistant described in Chapter 17. Medical officers from the Centre will visit such clinics at least once per week, and carry out such duties as may be necessary. Mobile clinics (suitably equipped vans) may prove a useful adjunct in many rural areas.

Native Areas Health Centres

12. Eventually these too will serve fairly small units of population, but at the inception of the service, owing to the lack of personnel and the necessity for economy of both personnel and equipment, it may be necessary to space them out on a basis of one to approximately 20—30,000 of the population. Another reason for the bigger quota for natives is the fact that many of the native people have not yet accepted Western medicine, and consequently the need in these areas is much greater for education and propaganda than for actual curative services. The recommendations of the Committee of Enquiry on the Medical Training of Natives can, with slight modifications, serve as a plan for such Health Centres. We suggest that there shall be at least two medical officers connected with each Centre instead of the one suggested by the Committee. A description of such a Health Centre can best be given in the words of paragraph 24 of the Report of the Committee:—

"Although teams of medical and health workers were envisaged as far back as 1928 by the 'Loram' Committee and were also recommended by the 1939 Committee on Medical Education (Botha), it was not until 1940 that the first such scheme was placed in the field—at the Polela Health Unit in Natal. Members of the present Committee visited this unit and the medical officer in charge gave evidence before the Committee. Although this unit is not yet in full operation, the following account of the ideal rural health unit is based upon the experience already gained at Polela:—

The population to be served by a single unit should vary according to local geographical conditions—roads, unbridged rivers, mountains, etc.—as well as the density and distribution of the population itself. The average may be placed at 20,000.

The personnel of the team comprising the staff of the unit should be:—One medical officer, preventive and curative; one medical aid, preventive and first aid only; seven native health assistants, preventive and first aid only; one nursing supervisor, curative, with health visitor's qualification; seven nurses-midwives, curative and infant welfare.

The medical officer (European or Native) should be regarded primarily as the leader of the team. As the success of the unit will depend largely on his ability to produce the team spirit and upon his enthusiasm for preventive and sociological medicine, the greatest care should be exercised in the selection of officers, and

they should be encouraged to remain in the service by giving them scope to work out new methods of approach to rural health problems, and by placing them on a good salary scale. The medical officer should direct both the preventive and curative services of the unit.

The curative functions of the unit should be exercised through a series of district nursing stations or clinics—six, including the headquarters clinic—at each of which should be a resident nurse or nurse midwife. Each clinic should be visited once a week on different days by the nursing supervisor (European or Native) and by the medical officer. The latter should examine and diagnose new cases, give injections for syphilis, perform minor operations, and so forth.

The preventive functions of the unit should be carried out by the medical aid (European or Native) and by the native health assistants, operating under the general direction of the medical officer and reporting to him constantly at the headquarters of the unit. They should be mobile and propagandist, engaged daily in kraal to kraal visitation and paying special attention to kraals from which sick persons have come to the clinic, with a view to remedying environmental conditions productive of ill health. A more detailed description of the proposed duties of medical aids working in health units will be given at a later stage of the report."

13. We feel that two doctors working at a Health Centre could do better work than when working in two contiguous units, each serving half the population served by the larger centre. With two doctors at the Centre it would be possible to have a larger number of clinics under its care with the necessary personnel under each clinic. The tremendous volume of ill health in these areas, which can be prevented through the work of such assistants, makes their employment imperative. Their work would be even more effective than the use of doctors and expensive paraphernalia of modern curative medicine. Urban ill health, much of which is due to the stress and strain of modern civilized life, as well as overcrowding, with the attendant risks of infectious diseases, greater exposure to accidents, and the higher cost of protective foodstuffs, is not as easily prevented as rural ill health, which is mainly due to gross insanitation and ignorance of dietetics. Both these latter can be corrected by the use of health assistants under inspiring leadership, such as that at Polela.

14. The Health Centre will usually be combined with a new hospital, but where there is already a mission hospital, it will generally be better to keep the Health Centre separate, as attachment might lead to administrative difficulties.

15. Experimentation will be necessary both with regard to staffing and the general technique of management. At first there will be only a few centres because of the shortage of staff, quite apart from any financial considerations. The experiments will have to be watched carefully, details recorded, and the records kept and analysed.

ADMINISTRATION

16. All Health Centres in any particular region will fall under the ultimate administrative and financial control of the Regional Health Director, advised by the Regional Health Council, and responsible to the National Health Board.

17. Local executive control will be exercised by the Chief Medical Officer of the Centre, advised and assisted by the Health Centre Council and the Technical Committee.

18. *On the Health Centre Council* there shall be represented:—

(i) the local authority or authorities in the area;

(ii) the voluntary agencies in the area;

(iii) representatives of the public appointed by the Minister of Health on the recommendation of the Magistrate;

(iv) the technical personnel of the Centre;

(v) the Chief Medical Officer of the Centre;

19. *The Chief Medical Officer* of the Centre will be *ex officio* Chairman of the Health Centre Council, and the *Registrar* will be *ex officio* Secretary. While all technical personnel of the Health Centre will be appointed by the Central Authority, the appointment of minor personnel will be left in the hands of the Health Centre Council, subject to the approval of the Regional Health Officer. The Health Centre Council will also be charged with the election of the representatives upon the Hospital Board in their area. The Health Centre Councils of one or more regions, as may be determined, shall elect a representative on the National Health Council, at the expiry of the life of the first National Health Council.

20. *Technical Committee.*—All the technical personnel of the Centre will form the Technical Committee. In village and country, and in native areas, this Committee would handle all matters itself, but in the larger city and town centres, an Executive Committee should be appointed with full power to act on behalf of the Technical Committee of the Centre.

21. Every five years, or whenever a vacancy occurs, the technical staff, subject to confirmation of the Regional Health Officer, will elect one of its medical personnel to act as Chief Medical Officer of the Health Centre. They will also elect representatives to the Regional Health Conference, to the Boards of hospitals in the area, and representatives on the Health Centre Council.

22. The Technical Committee or its Executive will arrange the duties, hours of work, holidays, etc., of all the technical personnel, in conformity with the general regulations governing the National Health Service as laid down by the National Health Services Personnel Commission. A constitution uniform for all Health Centres will have to be drawn up, defining the relative powers of the local Technical Committee and the powers of veto of the higher authorities, regional and national. The maximum degree of autonomy consistent with uniformity throughout the Service as a whole should be given

to the Health Centre Councils, and over-riding decisions should only be made after an officer of the higher authority has *personally* met the Health Centre Council and discussed the matter with them.

23. The Chief Medical Officer would be responsible for the collection of statistics, forwarding these to the regional and national headquarters, and for the immediate action based thereon in relation to non-personal, nutritional and industrial services.

Practice of a Health Centre

24. *Free Choice of Doctor.*—The medical practitioners, who will be employed on a full-time basis, would be on a panel, and persons resident in the area would have the free choice of doctor up to a limit of, for example, 2,500 persons to one doctor, or to such limit as the Technical Committee may determine. Outside the working day—whatever hours were agreed upon—the doctor would take his share of emergency duty with his colleagues and the nurses. At night, during week-ends, and on holidays, therefore, the patient would need to be content with whichever doctor was on call. He would be sure, however, of getting a doctor, which is more than can be said at present.

25. *Periodic Medical Examination.*—In the National Health Service, prevention of disease will be the main objective, even of the so-called curative services. In conformity with this will be the regular periodic medical examination of all the people, and as time goes on this will probably become the main service rendered by the Health Centres. A beginning in this connexion would be the periodic medical examination of all pre-school children, when it would be possible to establish a card-index which might in the course of time become a register of all the people in the area. To arrive at this desirable state—that all people are being periodically examined—will, however, require a great amount of education. This health education would be given in individual cases on the findings at the periodical and other examinations, and on reports on the home conditions brought in by the health visitors, or transmitted to the Health Centres by the local authority from health inspectors' reports. The doctors will also take part in the programme of general health education by giving lectures, etc., arranged by the Health Centre Council and the Technical Committee.

26. *Curative Work of the Health Centre.*—General medical practice, as understood to-day, will be carried out at the Centre with all the advantages outlined above.

27. *Domiciliary Curative Work.*—In the new system domiciliary visiting would be reduced because it is wasteful in man-power, time and money. It is not possible to perform the best clinical work in the average home. By health education, periodic examinations, and health visitor activities, people would be induced to come to the Centre before they became confined to bed. As the service will be free, there will be no reason for any hesitation or delay in calling on the doctor for help and advice. Cases who become acutely ill would be seen by the doctor immediately, or, if necessary, it could be arranged that they be admitted to hospital on the authority of a health visitor or district nurse.

28. The midwifery would, in the vast majority of cases, be undertaken by midwives, but in cases where any abnormality was discovered at the ante-natal examination or any difficulty of labour anticipated, would be referred to the hospital for attention by an obstetrical specialist. Because of the shortage of medical personnel it will be necessary to restrict home visiting by doctors, and in those cases which are treated at home unnecessary visits by the doctor could be curtailed by substituting visits of the district nurse, who would be in attendance on the case. Regular reports would be made as to progress, etc., and the doctor would visit the case when necessary.

29. *Hospital Curative Work.*—The doctors on the staff of the Centre would be attached to a general practitioners' hospital in the area, and would thus be enabled to follow up their cases in hospital. In the smaller hospitals, it will be necessary for one of the general practitioners to be trained to perform the urgent surgical work, but in the larger hospitals surgical specialists would be available.

30. *Functions of the Chief Medical Officer of the Health Centre.*—The Chief Medical Officer would act as leader of the team of technical personnel connected with the Centre. He will represent the local technical personnel to the higher authorities, and will serve to link the activities of the Centre with other local health services.

31. *The Registrar* (non-medical) will be Secretary to the Health Centre Council and business manager of the non-professional work of the Centre. As he will be particularly concerned with the preparation of vital statistics he should have statistical aptitude.

32. *Specialist Polyclinics.*—In the cities and some of the larger towns, special Centres will be instituted where specialists can do their consulting work. These Centres will of necessity vary in character and size. The basic idea is that specialized services would be concentrated at such a Centre where the patient, who would ordinarily visit a specialist at his rooms, could be seen or receive treatment.

To Illustrate Chapter 28

SCHEME OF HEALTH SERVICES CARRIED OUT AT OR IN CONNEXION WITH HEALTH CENTRES

Health Services at the Health Centre

The Health Centre Council is responsible for general arrangements at the Health Centre and liaison between services there and services outside. For this reason the Local Authorities and Voluntary Agencies, as well as Technical Personnel, are all given representation on the Council. Day to day administration by the Chief Medical Officer of Health Centre in accordance with policy and programme of the Health Centre Council.

Health Services Outside the Health Centre but Linked Directly with It

Some (clearly indicated) undertaken by the National Health Service itself, through Technical Personnel based on the Health Centre; others by other agencies, advised and often inspected by the National Health Service.

A. Periodic Medical Examinations:

on *Family basis*, by family physician selected by head of family, *revealing incipient ill-health* due to: → In case response of families voluntarily submitting to periodic medical examination is adequate, arrangements will be made to undertake periodic medical examination of school children, periodic medical examination of factory workers.

(1) Nutritional defects resulting from poverty — refer to → local Social Welfare Officer (assisted nutrition schemes).

(2) Neglect or ignorance of personal hygiene (dealt with by individual health education by doctor and nurse at Health Centre).

(3) Neglect of physical education — refer to → Physical Education Services (school *or* adult)

(4) Neglect of domestic hygiene, including malnutrition due to ignorance — refer to → Health visitor for area (National Health Service).

(5) External environmental insanitation and housing and drainage defects — refer to → Health Inspector of Local Authority.

(6) Defects in hygiene of workplace — refer to → Industrial Hygiene Services (Department of Labour).

(7) Social maladjustments — refer to → Local Social Welfare Officer.

(8) Psychological maladjustments

(9) Early physical disease

B. Health Education:

(1) Individual health education—(*See* (2) above.)

(2) Health museum at Health Centre. — Health visitors from Health Centre staff → Health educational services in homes (National Health Service).

(3) Health lectures (illustrated) at Clinics (Maternal and Child Welfare, etc.) in evenings (adults and adolescents) } in Health Centre Lecture Hall — General practitioners from Health Centre Staff → Lectures to:
- (1) School children.
- (2) Teachers in training
- (3) Social Welfare workers.
- (4) Workers at factories, stores, etc.
- (5) Congresses of teachers, employers, trade unions, etc.

(4) Health discussions and debates organized by Health Centre Council.

C. Curative Services:

Diagnostic:
- Clinical
- Radiological
- Laboratory
- Psycho-analytical → Specialist Services

Therapeutic:
- Medical (including dietetic)
- Surgical
- Dental
- Physiotherapeutic
- Psychotherapeutic

Domiciliary Curative Services: (National Health Service):
- General practitioners.
- District nurses.
- Visiting Physiotherapists.
- Ambulance Services.
- Health visitor (plus General practitioner if necessary) plus Health Inspector (Local Authority) } Prevention of spread of infectious diseases.

General practitioners from Health Centres visiting

→ Hospitals
- Spas
- Chronic Sick Homes.
- Convalescent Homes.
- Rehabilitative Centres (Department of Labour)

APPENDIX D

Financial Effect of Hospital Fees Committee Report

	£
Reduction in present recurrent Government expenditure	17,440
Increased recurrent expenditure devolving upon the Government	20,380
Net increase in recurrent Government expenditure	3,000

APPENDIX E

Staff Recommendations

The following table shows the existing staff of the Medical Department plus the additional staff recommended by the Sub-committee:—

(1) *Administration*

Headquarters Office—

Director of Medical Services ...	1
Deputy Director of Medical Services	1
Asst. Director of Medical Services ...	2
Matron	1
Chief Health Inspector	1
Accountant	1
Office Superintendent	1
Statistical Clerk	1
European Clerks	5
Asian Clerks	5
Africans	10

(2) *Central Services*

(*a*) *Medical Stores—*

Medical Storekeeper	1
Assistant Medical Storekeeper ...	1
Asian Clerks	5
Africans	20

(*b*) *Laboratory Services—*

Senior Pathologist	1
Pathologists	3
Biochemists	1
Assistant Biochemist	1
Haematologist	1
Assistant Haematologist	1
Laboratory Technicians (all grades)	11
European Clerk	1
Asian Laboratory Assistants ...	6
Africans	100

(c) *Division of Insect-borne Diseases—*

Senior Medical Officer	1
Medical Officers	2
Senior Entomologist	1
Entomologists	2
Anti-Malarial Engineer	1
Laboratory Technicians	3
Entomological Field Officers ...	5
Clerk and Storekeeper	1
Africans	44

(d) *Tuberculosis—*

Tuberculosis Specialist	1
Medical Officer	1
Nursing Sisters	6
Asian Nursing Sisters	4
Wardmaster / Radiographer ...	3
Africans	100

(e) *Venereal Diseases—*

Specialist Venereologist	1
Nursing Sisters	4
Africans	50

(f) *Leprosy—*

Leprologist	1
Additional staff	Uncertain

(g) *Mental Diseases (Mathari Mental Hospital)—*

Medical Superintendent	1
Head Nurse (Male)	1
Male Mental Nurses	4
Matron	1
Female Mental Nurses	4
Wardmaster	1
Africans	100

(h) *Rehabilitation Centre—*

Medical Officer	1
Physiotherapist	1
Technical Instructor	1
Mechanic	1
Radiographer	1
Nursing Sister	1
Africans	30

(*i*) *School Medical Service—*	
Medical Officer (Male)	1
Medical Officer (Female)	1
Dental Surgeon	1
Asian Medical Officers	2
African Asst. Medical Officers ...	As available.
Nursing Sisters	2
Asian Clerk	1
(*j*) *Labour Service—*	
Senior Medical Officer ...	Provided under Labour Department
Asian Clerk	
(*k*) *Group Hospital, Nairobi—*	
Senior Medical Officer	1
Specialists	7
Medical Officers	7
Dental Surgeon	1
*Asian Medical Officer	1
African Asst. Medical Officers ...	4
Assistant Matron	1
Senior Nursing Sisters	2
Nursing Sisters	40
Probationers	5
Asian Nurses	15
Wardmasters	3
Dispensers	2
Radiographer	1
Dental Mechanic	1
Housekeepers	3
European female clerks	3
African Staff—	
Male	300
Female	50
(*l*) *General Dispensary and Sub-dispensary—*	
Medical Officer	1
Prison Medical Officer	1
Asian Medical Officers	2
African Asst. Medical Officers ...	4
Nursing Sisters	4
Dispenser	1
European Female Clerk	1
Asian Clerk	1
Africans	40
(*m*) *Central Training Depot for African Males—*	
Medical Officer	1
Sister Tutor	1
European Instructor	1
Africans	10

* Dr. Ismail considers that two Asian Medical Officers should be provided.

(*n*) *African Nurses' Hostel, Nairobi*—

Nursing Sister	1
Africans	6

(*o*) *African Midwives' Training Centre, Kisumu*—

Nursing Sister	1
Africans	6

(*p*) *Infectious Diseases Hospital, Nairobi*—

Superintendent	1
Housekeeper	1
Nursing Sisters	2
Africans	70

(*q*) *Port Health Services (including aerodromes)*—

Medical Officers	2
Sanitary Inspector	1

(3) *Provincial Services*

Extra-Provincial Districts

Masai (Narok)—

Medical Officer	1
Health Inspector	1
Nursing Sister	1
Africans	60

Northern Frontier District—

Medical Officer	1
Health Inspector	1
Africans	50

Turkana—

Medical Officer	1
Health Inspector	1
Africans	40

Central Province

Provincial Staff—

Senior Medical Officer	1
Specialist Health Officer	1
Senior Health Inspector	1
Senior Nursing Sister	1

District Staff—

Health Division—

Health Inspectors	7
African Sanitary Inspectors	7

Medical Division—

Station	Medical Officers	Nursing Sisters	Wardmaster Radiographer
Nyeri	2	1	1
Meru	1	2	—
Kerugoya	1	2	—
Embu	—	1	—
Fort Hall	2	2	1
Thika	—	1	—
Kiambu	2	2	—
Machakos	2	2	1
Kitui	1	2	—

African Staff—

Six hundred.

Coast Province

Provincial Staff—

Senior Medical Officer	1
Specialist Health Officer	1
Senior Health Inspector	1
Senior Nursing Sister	1

District Staff—

Health Division—

Health Inspectors	4
African Sanitary Inspectors ...	8

Medical Division—

Station	Medical Officers		Nursing Sisters		Wardmaster Radiographer
	European	Asian	European	Asian	
Mombasa—					
(European Hospital)	1	—	4	—	—
(Native Hospital)	3	2	4	10	1
Port Health Office	1	—	—	—	—
Assistant P.H.O.	1	—	—	—	—
Maternity and Child Welfare ..	1	—	2	—	—
Kilifi	1	—	1	—	—
Msambweni	1	—	1	—	—
Wesu	1	—	1	—	—

African Staff—

Three hundred and fifty.

Rift Valley Province

Provincial Staff—

Senior Medical Officer	1
Specialist Health Officer	1
Senior Health Inspector	1
Senior Nursing Sister	1

District Staff—

Health Division—

Health Inspectors	3
African Sanitary Inspectors ...	11

Medical Division—

Station	Medical Officers	Nursing Sisters	Wardmaster
Nakuru	2	3	1
Eldoret	1	2	1
Kitale	1	2	—
Thomson's Falls	1	1	—
Kapsabet	—	1	—

African Staff—

Four hundred.

Nyanza Province

Provincial Staff—

Senior Medical Officer	1
Specialist Health Officer	1
Senior Health Inspector	1
Senior Nursing Sister	1

District Staff—

Health Division—

Health Inspectors	5
Sanitary Overseers	2
African Sanitary Inspectors ...	6

Medical Division—

Station	Medical Officers		Nursing Sisters		Wardmaster Radiographer
	European	Asian	European	Asian	
Kisumu—					
(European Hospital)	1	—	3	—	—
(Native Hospital)	3	1*	3	4	1
Kericho	2	—	1	—	—
Kisii	2	—	2	—	1
Kakamega	2	—	3	—	1
Central Kavirondo	1	—	1	—	—

*Dr. Ismail considers that two Asian Medical Officers are necessary.

African Staff—

Six hundred.

APPENDIX F

Financial Effect of Staff Increases Recommended

The following table sets out (*a*) the additional posts required under Appendix E over and above the existing establishment; and (*b*) the increased recurrent expenditure involved by such additional posts:—

Additional Staff	Number	Estimated Yearly Expenditure
		£
Senior Medical Officers	1	1,100
Medical Officers	13	10,660
Specialists	9	9,900
Leprologist	1	1,000
Medical Superintendent	1	1,100
Haematologist	1	900
Assistant Haematologist	1	600
Anti-malarial Engineer	1	840
Dental Surgeons	2	1,600
Assistant Biochemist	1	600
Office Superintendent	1	620
Statistical Clerk	1	620
Nursing Sisters	56	20,160
Wardmasters, Radiographers, Dental Mechanics, etc.	14	7,560
Health Inspectors (including Senior and Sanitary Inspectors)	9	4,860
Laboratory Technicians	6	2,820
Housekeeper	1	300
Asian Medical Officer	1	480
Asian Nursing Sisters and Nurses	22	3,300
Asian Laboratory Assistants	2	240
Probationers	5	1,200
African Assistant Medical Officers	3	450
African Staff	1,068	38,448
	£	109,358
Add 20 per cent Leave Movements		21,871
		131,229
Other Charges		21,000
	£	152,229

APPENDIX G

Buildings

	£
(1) *Administration*	
Medical Department Headquarters Office (5,000 sq. ft.)	10,000
(2) *Central Services*	
(*a*) *Medical Stores*—Nil.	
(*b*) *Laboratory Services (Medical Research Laboratory)*—	
Laboratory Extensions and Animal House	5,000
(*c*) *Tuberculosis*—	
Central Institution (European beds, 10; Asian beds, 20; African beds, 100)	50,000
(*d*) *Leprosy Settlements*—	
Nyanza Province (accommodation for 350); Coast Province (accommodation for 300)	10,000

(*e*) *Mental Diseases (Mathari Mental Hospital)*—
Asian Extension; African Female Block (60 beds); 2 African Male Blocks (120 beds) 30,000

(*f*) *Rehabilitation Centre*—
New Rehabilitation Centre complete (120 beds) 63,000

(*g*) *General Dispensary and Sub-dispensary*—
New General Dispensary, Nairobi, complete with staff quarters; Sub-dispensary on site of present General Dispensary 50,000

(*h*) *Medical Training Depot, Nairobi*—
New Training Depot, complete; Dormitories (60 students); Sleeping cubicles (60); Hostel, African Female Nurses (50); Classrooms (4); Laboratory; Common-room; Offices 70,000

(*i*) *Training Centre for African Midwives, Kisumu*—
Accommodation for 20 3,000

(*j*) *Infectious Diseases Hospitals and Quarantines*—
Kisumu, Nairobi and Mombasa (at £5,000 each) 15,000

Total Central Services: £296,000

(3) *Grouped and Provincial Hospital Services*

(*Note.*—Provision recommended in column (*a*) includes any provision recommended in column (*b*), which in turn includes any provision recommended in column (*c*).)

Details (and estimated cost per bed)	Additional Requirements During Next Five Years					
	(A) Optimum		(B) Medium		(C) Minimum	
	Additional beds	Cost (including extra staff quarters and ancillary buildings)	Additional beds	Cost (including extra staff quarters and ancillary buildings)	Additional beds	Cost (including extra staff quarters and ancillary buildings)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Group Hospital Nairobi		£		£		£
European ..	80	80,000	80	80,000	80	80,000
	20(*a*)	20,000	20(*a*)	20,000	20(*a*)	20,000
	20(*b*)	20,000	20(*b*)	20,000	—	—
Asian	120*	120,000	120*	120,000	120*	120,000
African	300	225,000	300	225,000	300	225,000
European and Asian Staff Quarters ..	50(*c*)	75,000	50(*c*)	75,000	50(*c*)	75,000
European Hospitals and Hospital Wards						
Nyeri (—)	10	10,000	10	10,000	10	10,000
Meru (£200)	2	400	—	—	—	—
Kerugoya (£200) ..	2	400	2	400	—	—
Fort Hall (£200) ..	2	400	2	400	—	—

(*a*) Children. (*b*) Maternity. (*c*) Quarters.

*Dr. Ismail considers that 150 beds should be provided.

Details (and estimated cost per bed)	Additional Requirements During Next Five Years					
	(A) Optimum		(B) Medium		(C) Minimum	
	Additional beds	Cost (including extra staff quarters and ancillary buildings)	Additional beds	Cost (including extra staff quarters and ancillary buildings)	Additional beds	Cost (including extra staff quarters and ancillary buildings)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
European Hospitals		£		£		£
Machakos (£200) ..	2	400	2	400	2	400
Kitui (£200)	2	400	—	—	—	—
Thomson's Falls (£200)	4	800	4	800	4	800
Kisumu (£400) ..	6	2,400	6	2,400	—	—
Mombasa (£1,000) ..	25	25,000	—	—	—	—
Kilifi (£200)	2	400	2	400	—	—
Kisii (£200)	2	400	2	400	—	—
Kericho (£200) ..	4	800	4	800	4	800
Kakamega (£200) ..	2	400	2	400	—	—
Asian Hospitals and Hospital Wards						
Mombasa (£1,000) ..	100*	100,000	100*	100,000	100*	100,000
Kisumu (£1,000) ..	30	30,000	30	30,000	30	30,000
Nakuru (£1,000) ..	16	16,000	16	16,000	16	16,000
Nyeri (£1,000) ..	10	10,000	10	10,000	10	10,000
Fort Hall (£100) ..	4	400	4	400	4	400
Machakos (£100) ..	12	1,200	4	400	4	400
Nanyuki (£100) ..	2	200	2	200	—	—
Meru (£100)	2	200	2	200	—	—
Embu (£100)	2	200	2	200	—	—
Kiambu (£100) ..	2	200	2	200	—	—
Kitui (£100)	2	200	2	200	—	—
Eldoret (£500) ..	6	3,000	6	3,000	6	3,000
Kapsabet (£100) ..	4	400	[illegible]	400	—	—
Kisii (£100)	2	200	2	200	2	200
Kericho (£100) ..	2	200	2	200	2	200
Kilifi (£100)	2	200	2	200	2	200
Msambweni (£100) ..	2	200	—	—	—	—
Malindi (£100) ..	8	800	8	800	8	800
Voi (£100)	5	500	5	500	4	400
Lamu (£100)	6	600	6	600	6	600
Narok (£100)	2	200	2	200	2	200
Thomson's Falls (£100)	2	200	2	200	2	200
Kerugoya (£100) ..	2	200	2	200	2	200
African Hospitals						
Fort Hall (£250) ..	80	20,000	80	20,000	80	20,000
Nyeri (£250)	100	25,000	100	25,000	100	25,000
Meru (£250)	60	15,000	60	15,000	60	15,000
Kerugoya (£250) ..	50	12,500	50	12,500	50	12,500
Embu (£250)	30	7,500	30	7,500	30	7,500
Machakos (£250) ..	40	10,000	40	10,000	40	10,000
Kitui (£250)	40	10,000	40	10,000	40	10,000
Thika (£250)	10	2,500	10	2,500	10	2,500
Nyeri (C.H.) (£200) ..	20	4,000	20	4,000	20	4,000
Meru (C.H.) (£200) ..	20	4,000	20	4,000	20	4,000
Embu (C.H.) (£200) ..	20	4,000	20	4,000	20	4,000
Fort Hall (C.H.) (£200)	20	4,000	20	4,000	20	4,000
Kiambu (C.H.) (£200)	20	4,000	20	4,000	20	4,000
Machakos (C.H.) (£200)	20	4,000	20	4,000	20	4,000
Kitui (C.H.) (£200) ..	20	4,000	20	4,000	20	4,000
Muriranja's (C.H.) £200)	20	4,000	20	4,000	20	4,000

NOTE.—(C.H.) represents "Cottage Hospital".

*Dr. Ismail considers that 120 beds should be provided.

Details (and estimated cost per bed)	Additional Requirements During Next Five Years					
	(A) Optimum		(B) Medium		(C) Minimum	
	Additional beds	Cost (including extra staff quarters and ancillary buildings)	Additional beds	Cost (including extra staff quarters and ancillary buildings)	Additional beds	Cost (including extra staff quarters and ancillary buildings)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		£		£		£
African Hospitals						
Nakuru (new) (£300) ..	500	150,000	300	90,000	200	60,000
Eldoret (£250) ..	100	25,000	100	25,000	100	25,000
Kitale (£250)	64	16,000	64	16,000	64	16,000
Kapsabet (£250) ..	11	2,750	11	2,750	11	2,750
Kapenguria (C.H.) (£250)	13	3,250	13	3,250	13	3,250
Thomson's Falls (C.H.) (£200)	20	4,000	20	4,000	20	4,000
Molo (C.H.) (£100) ..	20	4,000	20	4,000	20	4,000
Ravine (C.H.) (£200) ..	20	4,000	20	4,000	20	4,000
Kisumu (£250) ..	120	30,000	120	30,000	120	30,000
Kisii (£250)	100	25,000	100	25,000	100	25,000
Kericho (£250) ..	50	12,500	50	12,500	50	12,500
Kakamega (£250) ..	100	25,000	100	25,000	100	25,000
C. Kavirondo (£250) ..	100	25,000	100	25,000	100	25,000
Cottage Hospitals (£200)	160	32,000	160	32,000	160	32,000
Mombasa (£500) ..	300	150,000	300	150,000	300	150,000
Kilifi (£250)	36	9,000	36	9,000	36	9,000
Malindi (£250) ..	20	5,000	20	5,000	20	5,000
Lamu (£250)	20	5,000	20	5,000	20	5,000
Wesu (£250)	20	5,000	20	5,000	20	5,000
Voi (£250)	50	12,500	50	12,500	50	12,500
Kwale (C.H.) (£200) ..	20	4,000	20	4,000	20	4,000
Taveta (C.H.) (£200) ..	20	4,000	20	4,000	20	4,000
Totals .. £	—	1,435,000	—	1,348,200	—	1,292,300

APPENDIX H

Dispensaries

20 Dispensaries at £500 ... ... £10,000

APPENDIX I

Radiography Service

Therapeutic Plant, Nairobi £3,000

(Would meet needs of the three East African territories, so some reimbursement might be expected.)

Diagnostic Plants, Kisumu, Nyeri and Nakuru £5,000

Total: £8,000

APPENDIX J

AMBULANCES (*at £500 each*)

	£
Nairobi (6)	3,000
Central Province (10)	5,000
Rift Valley Province (4)	2,000
Nyanza Province (10)	5,000
Coast Province (7)	3,500
Masai (2)	1,000
Northern Frontier District (2)	1,000
Turkana (2)	1,000
Total:	£21,500

APPENDIX K

MEDICAL AND SURGICAL STORES AND EQUIPMENT

With expanded services a doubling of present expenditure is expected. Present expenditure (1946 Estimates) is £79,000, so allow	£79,000

APPENDIX L

PUBLIC HEALTH MEASURES

Mombasa Municipal Board—Drainage of Station Area ...	£37,000
Reserve for capital works connected with promotion of public health	£63,000
	£100,000

APPENDIX M

IMMEDIATE IMPROVEMENTS REQUIRED TO EXISTING HOSPITALS

See paragraph 66 of Report	£200,000

APPENDIX N

SUMMARY

Appendix	*Increased Expenditure Recommended* — *Capital* £	*Annual Recurrent* £
D	— ...	3,000
E and F	— ...	152,229
G (1) Administration	10,000 ...	—
(2) Central Services	296,000 ...	—
(3) Grouped and Provincial Hospital Services (on basis of column (*c*))	1,292,300 ...	—
H	10,000 ...	—
I	8,000 ...	—
J	21,500 ...	—
K	— ...	79,000
L	100,000 ...	—
M	200,000 ...	—
Totals:	£1,937,800 ...	£234,229

Appendix 9

REPORT OF THE SUB-COMMITTEE ON INDUSTRIAL DEVELOPMENT, INCLUDING ELECTRIC POWER DEVELOPMENT

To the Chairman, Kenya Development Committee.

1. We were appointed a Sub-committee of the Kenya Development Committee to consider the question of industrial development, including electric power development. We have had several meetings and have had the advantage of consultation with Sir Charles Lockhart, C.B.E., Chief Secretary to the Governors' Conference and Chairman of the East African Industrial Council. We now submit our report for consideration by the Development Committee.

2. It is desirable at the outset that we should give an indication as to how we interpreted our terms of reference. We came to the conclusion that what was required of us was a recommendation as to whether a policy of industrialization should be adopted and the reasons therefor and, if so, how it should be carried out, and what were to be the main requirements of such a policy. We did not consider we were required or equipped to give specific advice regarding individual industries as to how they should be organized, financed and managed.

3. We have come to the conclusion that there is a need for the development of industries in Kenya on three grounds:—

(*a*) To increase the national income in accordance with paragraph 4 of the Interim Report of the Development Committee.

(*b*) As part of an employment policy.

(*c*) As a stabilizing factor in Kenya's economy.

Regarding (*a*) we feel that the experiences of the war have demonstrated that it is possible within limits mainly, but not entirely, by the processing of primary products to use the resources of this country to increase the national income by industrial processes without detriment to the other sources from which that income is obtained. We do, however, consider that there are limits to industrialization and have come to the conclusion that Kenya cannot in any period of time we can foresee become an exporting country for manufactures on a large scale, owing to the absence of traditional skill, raw materials and a cheap indigenous fuel supply.

In connexion with (*b*) we consider there will be an employment problem, not perhaps immediately apparent when there is so much outstanding work to be done. We realize, however, that if the national income is to be raised all must work. If, however, the land of Kenya is to be preserved and if Kenya is to hold her place in the world's markets for her exportable agricultural products by low-cost production, there must be a radical change in the traditional farming methods and this must result in limiting the number who can be employed on the land, whether working for themselves or for others. There will also be the need to find employment for those who must eventually be displaced from eroded lands (they will be displaced eventually by nature if not by Government action) for the purpose of rehabilitating

those lands if they have not been irretrievably ruined. We also consider that employment will be necessary for a number of demobilized soldiers, mainly Africans who have already been divorced from the land and who by their army education and training wish to take up urban employment of a skilled or semi-skilled nature. Finally we have had to consider the question of a rapidly increasing African population brought about mainly by improved health services provided by the British Administration. We must, however, emphasise that industrialization in Kenya is not the panacea for all ills. The words of the White Paper on Employment issued by the British Government are also most appropriate: "Employment cannot be created by Act of Parliament or by Government action alone." The White Paper goes on to say that "Government policy will be directed to bringing about conditions favourable to the maintenance of a high level of employment; and some legislation will be required to confer powers which are needed for that purpose. But the success of the policy outlined in this Paper will ultimately depend on the understanding and support of the community as a whole—and especially on the efforts of employers and workers in industry; for without a rising standard of industrial efficiency we cannot achieve a high level of employment combined with a rising standard of living."

Regarding (*c*), it is now generally accepted that a high level of national income can only be maintained by regulating capital investment and consumption, and that it is public and private investment which are the most difficult to regulate. We feel that if the recommendation we make later on in this report regarding a Government Finance Corporation is accepted, the existence of limited industrialization may be used to time capital investment in such a way as to contribute to the policy of stabilization.

4. Having reached these conclusions, we then considered the question as to what part the Government should play in the development of industries, and we came to the conclusion that the executive operation of specific industries would in the main be more successful if left in the hands of private enterprise and, to paraphrase the words of the White Paper, that Government should do what it can to bring about favourable conditions, and to provide legislation to confer powers to that end. We did, however, consider Government should go further than that. Although we had no evidence that there is at present any shortage of capital for industrial development, cases may arise in future where Government participation is inevitable, particularly in industries which would not normally exist without Government guarantees and support, and in industries which might be established for social as distinct from economic considerations, such as those developed for the employment of displaced persons or a part of a policy for stabilization. This we considered should be achieved by Government guaranteeing or providing the capital and private enterprise (with Government representation on the Board) operating the industry as a Corporation. To give practical effect to this proposal *we recommend the formation of a Government Finance Corporation* under the control of a Statutory Board to whom representations for specific proposals could be made. We shall, later in the report, again refer to this proposal for the setting up of a Government Finance Corporation in relation to a policy of stabilization.

5. In the course of our consultation with Sir Charles Lockhart we considered the future of the East African Industrial Council. We realized that our recommendations must be confined to questions affecting Kenya. Sir Charles Lockhart indicated to us the policy which it is hoped will be accepted by the East African Governments and on which it is expected an announcement will be made shortly—probably before this report is considered by the Development Committee—and we have no further comments to make on this question.

6. We then passed on to consideration of the question of Government control over industrial development and the location of industries specifically. *We recommend that this should be achieved by a positive system of licensing.* We regard the control of location of major industries as most important for reasons which are well known, relating to communications, sources of supply of raw material, water, power or fuel, and labour. We further recommend that the Government of Kenya should approach the other East African Governments to ascertain whether it is feasible to operate this control on an East African basis. We consider a general licensing system essential for many reasons, mainly to prevent cut-throat competition resulting in bankruptcies, the labour question, the limitation of raw material, etc. It might be argued that bankruptcies are processes of natural selection of the fittest to survive, but we could not accept this view, as the primary objective of our recommendations is the raising of the national income and we consider that bankruptcies have the contrary effect. We consider that the licensing system should be confined to major industries and that these industries should be scheduled in one legislation and, whilst power should be taken for the issue of exclusive licences, this should be the exception rather than the rule. We also consider that if at all possible, and we have some doubts as to its practicability, powers should be taken to prevent large-scale organizations acquiring local industries for the purpose of suppressing competition. We understand the East African Industrial Council is recommending that the scope of a licensing system should be on the following lines and we endorse their recommendations. The control of licensing would be by the Board referred to in paragraph 21. We include the Council's proposals in order that this report may be complete in itself without reference to other reports:—

(i) Industrial licensing to be on an East African basis; the industries subject to licensing being included in a schedule which could be amended from time to time and which should be scrutinized by the Council in the first place. The schedule should not cover the whole field of industries.

(ii) Factories already in production in respect of any scheduled industry when the legislation is introduced to be licensed automatically. No control should be exercised on expansion.

(iii) After the date on which the legislation comes into force all applications to be advertised throughout the three territories.

(iv) Where licences have already been issued for an existing industry, the licence holders of that industry acting together, or any one of them, or (with the permission of the Council) any other interested

party, to be permitted to make an objection to the issue of a further licence. The issue will then be considered by an independent tribunal appointed by the Council, before which the applicants and the objectors can be heard.

(v) In the case of a scheduled industry for which no licence is subsisting, that is to say a new industry, the grant of a first licence would be considered by the Council before which the applicant will be heard.

(vi) A decision by the Industrial Council that a licence should not be granted shall only be made upon one or more of the following grounds of which (*d*) will not, of course, apply to the first applicant in respect of a new industry:

(*a*) that the capital, technical skill or raw materials available to the applicant are, in the opinion of the Industrial Council, inadequate to secure the successful establishment and operation of the factory; or

(*b*) that the place at which the applicant proposes to establish the factory is not a suitable situation for the production of the article concerned, either from the point of view of availability of raw materials, electric power, water or fuel or proximity to the main consuming centres, provided that

(*c*) in the case of (*a*) or (*b*), in the opinion of the Industrial Council failure of the applicant's enterprise would be likely to prejudice the successful development of the industry as a whole;

(*d*) that factories already established in the Kenya Colony, the Uganda Protectorate or the Tanganyika Territory, for the manufacture of the article which the applicant for the licence proposes to produce in the factory which is the subject of the application for the licence have an actual or potential output which is sufficient to meet the actual or potential demands of consumers at a price which is not less favourable to consumers than that which, in the opinion of the Industrial Council, such applicant would find it necessary to charge in order to obtain a reasonable return on the capital required to establish such factory.

(vii) Any applicant who is aggrieved by a decision of the Tribunal that a licence should not be granted to him may appeal to the Governor in Council of the territory within which he desires to operate and the Governor in Council may direct that a licence shall be issued.

A further piece of legislation which we consider is necessary in the control of industry is that of controlling monopolies, price rings, price fixation, cartels, etc.; this type of legislation has been highly developed in the United States of America and legislation on these lines is under contemplation in the United Kingdom and, as we are anxious to stimulate effective

demand and a rising standard of living, we consider that it is in the interests of the people as a whole that monopolies should be effectively controlled. This should not be taken to mean that we agree that all monopolies are undesirable, or, on the other hand, that intensive competion is always satisfactory, but we do consider that powers should be taken which would have the object of permitting monopolies only when it is in the public interest to do so.

7. As part of the policy for the development of industry is based on an employment policy, we felt that we had to consider the question of providing stable and continuous employment and, as we have said earlier in the report, this depends to a very great extent on stabilizing the different parts of the national income. In a recent issue of *The Economist* it was stated that—"No country can pretend that it has a full employment policy unless it can see its way to bring about a stabilization of each of the main varieties of income. Small fluctuations can be offset by artificially induced and opposite fluctuations in the expenditure of the State, that is, in income generated by public expenditure. But public works cannot be expected to be so variable that they can offset major disturbances in other income flows."

We feel that a great deal can be done towards stabilization by the timing of Government capital expenditure and we appreciate that a considerable step forward has been taken by the setting up of a Development and Reconstruction Authority with a separate budget, and we feel that this is a potential means of timing Government capital expenditure. But we think that more is required and, as we have recommended earlier in the report, the setting up of a Government Finance Corporation should play a part in forming an outlet for private savings, the expenditure from which could also be timed in order to provide a degree of stability and it might be possible to make even more use of this organization by varying the rates of interest on the subscribed capital of the Corporation (if any). But even these two methods do not go the whole of the way and it would be most desirable if it were possible to obtain from the larger industrial organizations in this country and from local Government activities a programme of capital expenditure which could, if necessary, be timed as part of the stabilizing process. It is realized in the United Kingdom that the timing of capital expenditure by private enterprise is a very difficult matter. We fully realize the difficulties but we recommend that Government should take any possible step to obtain the co-operation of private enterprise in this particular matter. No doubt such participation by private enterprise would have to be on a voluntary basis, but on the other hand stability is as much in the interests of private enterprise as it is of the Goverment of the country. In the same way it is necessary in the interests of stability to obtain a proper balance between consumption expenditure and capital investment and whilst we do no recommend that there should be any attempt to regulate by law consumption expenditure, we do think a good deal out to be done to encourage private savings, and this we think could best be achieved by a radical extension of Post Office Savings Bank facilities and propaganda directed towards the encouragement of savings, as opposed to consumption expendi-

ture, and it cannot be too strongly emphasised that nothing would do more to encourage capital investment in manufacturing industry than a policy which had as its result stabilization.

8. In considering these matters, we realise that it is a matter of the highest importance that the Government should have available to it statistical information. Most of the Government departments and the Statistical Service provide adequate information in regard to Government activities, but the information in connexion with private enterprise is very sparse indeed and we recommend that the Government should set up as part of the Statistical Service, the collection of statistics in respect of industrial undertakings on the lines of the Board of Trade Returns in the United Kingdom and the procedure in South Africa. We recommend that this collection of essential statistics should be done under legislation and that the Director of Statistics should be invited to express his opinion as to what statistics are essential and the Chambers of Commerce should be consulted. Certain essential statistics have been laid down in the White Paper on an employment policy in the United Kingdom, some of which are suitable for East African conditions and others not. But we do regard it as important that statistics relating to employment should be obtained and figures of production, consumption of stocks, etc., are essential. We also recommend the resumption of the publication of the Trade Report which has been, for security reasons, suppressed during the war. We also consider that it would be of great assistance to the public if the requirements for the rendering of statistical information which are at present incorporated in various Ordinances, e.g. mining, were incorporated in the proposed new legislation. We do not propose that there should be any diminution or alteration in the powers of Heads of Departments to call for this information. Our object is to present to the public in a comprehensive form all the requirements for the rendering of statistical information.

9. We next considered the question of securing adequate facilities for scientific research and the utilization of the results of research. Sir Charles Lockhart told us that decisions had already been reached on this question on an East African basis and it may well be that our recommendations are already out of date. We think, however, that it may be worth while to record our conclusions. We were already aware that consideration was being given to the setting up of a central East African Research Station, embracing all forms of pure research, and that this was a matter outside our scope. We are limited to consideration of the facilities for research directly related to the development of industry in Kenya. We were advised that certain of the technical departments, such as the Agricultural, Veterinary and Mining Departments, maintain small research units dealing with questions directly related to the activities of the departments, and we were impressed with the arguments that these departmental units should be retained, although we were told that in the scheme already approved the departmental mining research would become part of the new organization. We do no more than record that in our view the departmental research, including mining, should be retained. We do, however, consider that there is a very real need for the collation of the results of all research in a manner which will enable those interested in industrial development to ascertain easily and readily what

preliminary research has been carried out. *We therefore recommend the setting up of a Central Scientific Library under a competent scientific librarian as a State service* and that all the details of departmental scientific research should be submitted to the central library for record.

We also recommend that there should be a small Central Board of Research with one or two general scientists to conduct general research, but we consider that in most cases large undertakings interested in specific industrial questions will bring their own teams of specialized scientific workers to conduct research into these particular questions. We also consider that if it is in the public interest that specialized research is required in respect of particular industries, the Board of Research should engage specialists. We do not consider that it is economic or necessary for the Research Board to include in its permanent staff a number of specialist or industrial scientists, and although we consider that general scientists can conduct research in specific questions, we feel that much time is lost in such cases by the need for the general scientist to gain a knowledge of practical industrial processes, and we consider our proposal that specialists should be engaged for particular problems meets the requirements in a more satisfactory and economic manner.

We recommend that the Research Board should be a State service and the results should be available without charge, but provision should be made whereby requests for particular scientific research can be undertaken for a fee, if such research is not considered by the Board to be of general interest.

10. On the question of taxation and fiscal policy, we do not consider that tariff walls should be erected to bolster up uneconomic or inefficient local industries, and we do not think it right that the people of this country should be compelled by the Government's fiscal policy to purchase local manufactures when better imported articles are available under a normal import duty policy. As to what is a normal import duty policy we are unable to say with any precision, but it is within the limits of 20 per cent to 33⅓ per cent *ad valorem*. We strongly support the proposal made by Sir Charles Lockhart that the question should be the subject of expert examination by an experienced economist. We do, however, consider that Government must take strong and immediate action against dumping or any artificial attempt at extinguishing a local industry by price cutting with that as its sole object. Each case will have to be met by a specific remedy; there is no general remedy which can be adopted for all cases.

We were impressed by Sir Charles Lockhart's view that although the rates of import duty and income tax cannot be stabilized for all time, effort should be made to avoid alterations over short periods to meet with budgetary fluctuations and we are generally in accord with that view. But as part of the policy of industrialization is based on the urgent need for an employment policy we do consider a case may arise which would justify variation in taxation to provide employment so that when private investment and consumption are insufficient to maintain full employment, public expenditure from funds provided by taxation may, to some extent at any rate, take up the slack, and we consider that this question should be examined

most carefully by experts. We also consider the Commissioner of Income Tax should examine the question of the incidence of income tax in relation to industrial undertakings on the lines of the examination now being made in the United Kingdom regarding allowances in respect of depreciation, replacements, etc., with the object of seeing whether the present form of tax is having a restrictive effect. We have assumed that the Excess Profits Tax will shortly be removed and that no comment on that tax is necessary.

11. It is appropriate to consider the question of Royalties under the heading of taxation. We are aware that there is a difference of opinion as to whether royalties are a form of taxation or a payment in respect of minerals vested in the Crown. We are told that the royalty system in this country is on a more satisfactory basis that in most mining countries. We have insufficient expert knowledge of the subject to make any specific recommendation, but we consider that the royalty system should be kept constantly under review by experts to see that its operation does not retard development in what must always be speculative enterprises but which, if successful, must have a material effect on the national income.

12. We gave very serious consideration to the question of the supply of electric power and fuel for industrial purposes. We were told that the Governors' Conference had recommended that a team of investigators be sent to East Africa to examine the potential demands for electric power and to examine the water power and fuel resources and to report on the best means of providing for future necessary development of electricity supplies. We strongly endorse this recommendation. The main Development Committee also recommended the engagement of an experienced engineer to advise on the methods by which the maximum use can be made of the water resources of the Colony. On the question of potential demand for electric power there is reason to believe that considerable information is already available which could be placed at the disposal of a team of investigators. We consider that the results of these investigations should be awaited before any large sums of money are spent on electrification.

13. We feel, however, that there is a good deal of misconception on the question of the extent to which electric power can be economically provided in Kenya. Even if very large capital grants were provided without cost, and they would need to be large, figures of the order of £13,000,000 and over have been mentioned, the recurrent costs of provision of electricity on a Colony-wide basis are likely to be so heavy that the result would be to diminish the national income rather than to increase it. We have come to the conclusion that the best method of developing cheap power is by promoting schemes in various areas where there is an incipient or potential demand and, as circumstances warrant, coupling these district schemes. The recommendations we have already made should facilitate the promotion of such schemes.

14. In connexion with electric power requirements, we consider an investigation should be made for the provision of a modern large scale wood preservation plant with assistance, if necessary, from the Finance Corporation, in order that electricity costs might be reduced by using suitably impregnated poles for transmission lines in place of imported steel poles.

15. The question of the electrification of part or all of the railway system as forming a potential demand for electric power was examined by us, but owing to the low speed operation, comparative low density and the necessity of providing the power by overhead transmission, we came to the conclusion that the cost would be so heavy that it would be impossible for the administration to maintain its services on anything like the present rates and charges. We were not unmindful of the difficulties of maintaining the railway on imported fuel supplies or the difficulties of the supplies of water, but we came to the conclusion that if these difficulties became so great as to justify consideration of other forms of locomotive power, consideration would first be given to the development of diesel traction rather than direct electrification.

16. It may not be generally realized that the cost of providing overhead transmission facilities, quite apart from the capital cost of generating the electricity, is almost equal to the cost per mile of building a new railway.

17. On the general question of fuel supplies, whilst we realize that the use of wood as a fuel cannot and should not be entirely eliminated, its use is limited, and is gradually being reduced, owing to physical difficulties in its consumption in modern prime movers, the subsidiary difficulties in getting it to points of consumption, its relatively low calorific value, and certain risks attendant on its use (fires, etc.). Up to now no coal or oil measures have been discovered in East Africa in areas from which the products can be economically transported to the places of consumption, and for some time to come the country will have to import considerable and probably increasing fuel supplies, with all the inconveniences and disadvantages (including strategic) that that entails. We therefore urge that investigation should be continued into the possibility of finding fuel supplies in areas from which they could be transported economically to the consuming centres, and financial provision should be made to enable this to be done.

18. We consider that there is a considerable field for the development of the mineral wealth of this country, both in regard to export of minerals and the utilization of mineral products as the raw materials for local industrialization, and we consider that this can best be furthered by a mining department, which should be responsible for encouraging the mining of the ores from the ground, with such aid as may be required from the Finance Corporation, but also for advice on the utilization of the minerals in local industries. We do not feel competent to advise as to how such a department should be directed, whether as part of a larger department or as a separate department, although one of our members holds strong views on this point. We are convinced that the transport authorities—road, rail, air and shipping—will do everything in their power to foster economic mineral development; to do otherwise would be detrimental to their own interests.

19. On the question of specific industries, we feel that no good purpose would be served by giving a catalogue of the products which we think could be economically manufactured in Kenya. Such a catalogue would probably be out of date before it was published.

20. We consider that, with the recommendations which we have made for assistance, control and protection, private enterprise will soon decide what types of manufacture are worthy of further investigation. We also realize that a good deal of experience is available in respect of the factories which have been operated by the Industrial Management Board and by the Army and its contractors. We have insufficient technical knowledge to say with certainty that a particular product can or cannot be manufactured economically, or will or will not raise the national income. We content ourselves by saying that we consider there is considerable scope for the processing of primary products to eliminate the transport of waste material and to prepare the products in such a way as to be attractive to the buyers. We also consider that there are a number of imported articles which could well be manufactured here on a standard not inferior to the imported articles, and which could find an expanding market locally.

21. Before we leave the general question of industrial development to go on to consider the allied questions of labour, education and training for industry and inspection services, we wish to record that we considered whether a separate Government Department should be set up to deal with and encourage the development of industry. We came to the conclusion that this was unnecessary and would lead to overlapping and would do more harm than good, but we did consider that some form of co-ordination was desirable to facilitate active consideration of inquiries made by the public. This, we consider, could best be achieved by the appointment of an Industrial Board. It is to this board that the public should make its inquiries and any application for financial assistance in respect of industrial development should in the first place be examined by the board before reference to the Finance Corporation. The duties of the board could well be extended to include responsibility for licensing, direction of responsibility for licensing, direction of specific research and co-ordination of departments interested in particular projects of industrial development.

22. We then went on to consider the question of labour supplies and labour conditions for an industrial development policy, and we came to the conclusion that so far as the question of labour supply is concerned, once the initial difficulties regarding demobilization have been overcome and a general adjustment of the population from a war-time to a peace-time outlook has been achieved, it is unlikely that there will be any shortage in the labour supply. In fact we feel that the great difficulty concerning Kenya will be to maintain a full employment policy for the reasons which we have already set out in paragraph 3 of our report, for we consider that, if Kenya is to survive, then there will have to be radical changes in agricultural policy which must result in a lesser number of people being employed on the land, and also a rapidly growing population which cannot indefinitely be maintained on the land—a problem which cannot be met by making additional land available owing to the limitation in suitable land in Kenya. There is also the question, as we have previously mentioned, of the eroded lands. There is, therefore, no reason to fear that industrial development will be retarded by lack of labour supply. We do feel, however, that it is important

that industrial undertakings should not be erected on unsatisfactory labour conditions and that the industries should be built up on the assumption that the employees will become completely urbanized with their families and that in the long run no industry can be successful which bases its labour conditions on the assumption of the men being urbanized and the women and families remaining part of the rural population. This in turn means the provision of adequate and suitable housing and health services, and the payment of adequate wages to maintain family life, and it is this which has given us the greatest cause for concern because we realize that this can only be achieved by a very radical increase in the output per head of the population. We do not think that the African population in particular realize this elementary economic truth. They do not realize that betterment of their conditions to a very great extent rests with themselves and improved wages and improved conditions cannot be achieved by employers alone. Otherwise the industries can never survive in this country. We regard this matter of such importance that we consider the Government must undertake a large scale propaganda campaign with the object of getting the Africans to understand this need in their own interests for an increased output. We consider that not only should the administrative officers endeavour to inculcate this into the African population, but that it should be part of the general African education and, as we assume that some sort of information office will be required after the war, we consider that the main part of the duty of the officer in charge should be to disseminate information on this point. We also feel it might well be worth while for the Government to appoint an administrative officer of wide experience to undertake a campaign of this sort, assisted, if possible, by a team of Africans. In this connexion we realize that the African places a much higher value on leisure than do most other races and that the profit motive and the requirements of a higher standard of living make little appeal to the African to help himself. On the whole he is only prepared at the moment to accept these if they can be obtained with little effort on his part. We would go so far as to suggest that the task of finding a suitable incentive for the African to advance himself might well form the subject for specialized scientific research, for we are convinced that unless this problem can be solved there is little hope of establishing satisfactory industries in Kenya. On the other hand, we are convinced that industries established on the provision of poor labour conditions by employers are also doomed to failure, and we would again reiterate the statement made by His Majesty's Government in the recent White Paper on "An Employment Policy" that "the success of the policy will ultimately depend on the understanding and support of the community as a whole, and especially on the efforts of employers and workers in industry, for, without a rising standard of industrial efficiency, a high level of employment combined with a rising standard of living cannot be achieved."

23. One of the most powerful methods for the development of industry in Kenya is that of ensuring a highly-trained staff. We therefore considered the question of education and training of those of all races who are to be engaged in industry and we had before us a memorandum prepared by Mr.

P. E. W. Williams, the Director of Training, and Mr. A. O. Cosgrove, one of our members. This memorandum is reproduced as an appendix to this report. We consider that a State Scheme should be set up for the provision of a Technical and Commercial Institute and that a Board of Management should be appointed and an executive principal. We consider that this should be financed by voluntary contributions from Government, municipalities, industrial employers and all those interested in technical and vocational training. We came to the conclusion that the various Government departments who at present offer specialized training to their apprentices and members of their staff should, as far as possible, combine together, for by a combination of resources better results are likely to be achieved. We realize that this cannot be done in its entirety as certain types of employment are not common to all industrial undertakings and, in those cases, specialized training would have to be provided by the industry concerned. We do not propose to go into details in regard to the formation of a Technical and Commercial Institute because the Report mentioned above gives a broad idea of what we have in mind, except that we consider that it would be a State undertaking and that facilities should be made available for employees outside Nairobi to attend this Technical and Commercial Institute for training. We believe that the Institute must be in a central place and this must necessarily involve the provision of hostel accommodation, and we feel that this Institute could form the nucleus of a training centre for the whole of East Africa if it were found desirable to extend its activities beyond Kenya. The amount which is likely to be involved by the adoption of this proposal is a modest amount compared with the national income of Kenya and whilst we can give no detailed figures as to the precise amount required, we feel that the memorandum by Mr. Williams and Mr. Cosgrove gives sufficient indication of the sums involved, to which must be added a sum for a suitable building and the hostel accommodation mentioned previously.

We would also urge that Government should give serious consideration to a legal enactment making it compulsory for employers to permit apprentices to attend suitable classes during working hours. Legislation embodying this principle has already been adopted in the United Kingdom and in South Africa. We consider that this is in the interests of employers as well as in the interests of the apprentices. Many enlightened employers have already realized this and do grant suitable facilities, but we feel that it should be made compulsory on all employers.

24. Finally, we considered the question of inspection services. Not only is it necessary that industrial undertakings should provide good conditions of employment but they must also take steps to protect their employees and members of the public, and they must be prevented from using processes which, without precautions, may be detrimental to health. Certain provisions already exist under various ordinances, the most outstanding one is in connexion with mining, and also that provided under the Electric Power Ordinance. But we feel that there is an absolute need for a Factory Act applicable to local conditions and, further, that safety precautions in connexion with the use of boilers should be introduced at an early date; we

realize that the provision of legal enactments on the Statute Book are not sufficient and that steps must be taken to provide adequate inspection services and adequate penalties which should be rigorously enforced.

We realize that organizations already exist for inspection in connexion with mining, electricity, health, labour, etc., but we believe there is sufficient scope to warrant the appointment of a Chief Factory Inspector with an adequate staff to cover electricity, factory and boiler inspections. The Chief Inspector should be advised by a representative board and it should be the responsibility of this board to make recommendations for modifications or improvements in the legislation designed to protect the workers in industry. By combining electricity with factory and boiler inspection we believe that a certain amount of overlapping will be avoided.

We seriously considered whether a case existed for the creation of an Inspection Bureau which would cover all aspects of inspection, including health and labour, but we came to the conclusion that at the present stage of development in this country we were not justified in disturbing the present organization and content ourselves, therefore, with making a recommendation to cover those services which are not at present provided for. We attach considerable importance to this question of inspection and for that reason recommend the creation of a separate inspectorate rather than placing factory and boiler inspections under the purview of the Labour Department. We believe that the Labour Department has an important part to play in regard to the labour conditions applicable to all races and to employers and employees alike, and we do not consider it wise to add to its responsibilities by making the Department responsible for what is a highly technical service.

25. It has been our object in this report to make recommendations which will facilitate the development of industry rather than to try and consider the details of any particular industry or industries, and we believe that if our recommendations are accepted it should be possible to develop local industry on sound lines and without detriment to the other sources of the national income, and we commend our report for the consideration of the main Development Committee.

26. We have been restricted by our terms of reference to consideration of industrial development and electric power as it affects Kenya, but we have come to the conclusion that such matters cannot be confined to arbitrary boundaries, and that if such development is to be fully effective we are convinced that the question must be considered on an East African basis, and we urge this consideration on all the authorities concerned.

27. *Summary of Recommendations.*—

I. The formation of a Government Finance Corporation. (Paragraph 4.)

II. Control over industrial development and location of industries should be achieved by a positive system of licensing operated, if possible, on an East African basis. (Paragraph 6.)

III. Enactment of legislation to enable the exercise of control over monopolies, price rings, price fixation, cartels, etc. (Paragraph 6.)

IV. Stabilization of employment and of the national income by timing of capital expenditure. (Paragraph 7.)

V. Radical extension of Post Office Savings Bank facilities and propaganda directed towards encouragement of savings. (Paragraph 7.)

VI. Collection by the Statistical Service of statistics in respect of industrial undertakings and enactment of comprehensive Statistics Ordinance. (Paragraph 8.)

VII. Resumption of publication of the Trade Report. (Paragraph 8.)

VIII. Setting up of a Central Scientific Library under a competent Scientific Labrarian as a State service. (Paragraph 9.)

IX. Establishment of a small Central Board of Research. (Paragraph 9.)

X. Examination of import duty policy by an experienced economist. (Paragraph 10.)

XI. Acting against dumping, etc. (Paragraph 10).

XII. Variation of taxation to provide employment. (Paragraph 10.)

XIII. Examination of incidence of income tax to determine whether in its present form it is having a restrictive effect. (Paragraph 10.)

XIV. Royalty system should be constantly reviewed. (Paragraph 11.)

XV. Results of inter-territorial investigation into electric power and connected matters should be awaited before any large sums are spent on electrification. (Paragraph 11.)

XVI. Promotion of electric power schemes in areas where there is an incipient or potential demand, rather than on a Colony-wide basis. (Paragraph 13.)

XVII. Provision of a large-scale wood preservation plant to enable use of impregnated wooden transmission poles in place of imported steel poles. (Paragraph 15.)

XVIII. Investigation into fuel supplies. (Paragraph 17.)

XIX. Development of mineral wealth of country can best be furthered by a mining department. (Paragraph 18.)

XX. Appointment of an Industrial Board. (Paragraph 21.)

XXI. Propaganda to encourage increased output of labour. (Paragraph 22.)

XXII. Provision of a Technical and Commercial Institute. (Paragraph 23.)

XXIII. Enactment of legislation making it compulsory for employers to permit apprentices to attend classes during working hours. (Paragraph 23.)

XXIV. Enactment of Factory Act; early introduction of safety precautions in connexion with use of boilers; provision of adequate inspection services (including a Chief Factory Inspector and staff to cover electricity, factory and boiler inspections) separate from the Labour Department. (Paragraph 24.)

XXV. Development to be fully effective, should be on an East African basis. (Paragraph 26.)

R. E. ROBINS,
Chairman.
H. B. HAMILTON,
R. PEDRAZA,
A. O. COSGROVE,
A. J. DON SMALL,
R. B. PANDYA,
Members.

K. W. SIMMONDS, *Secretary.*
Nairobi,
26th September, 1945.

APPENDIX

THE NAIROBI EVENING CONTINUATION CLASSES

A report by the Sub-committee appointed at the 55th meeting of the Management Committee held on the 11th December, 1944

History

1. Mainly through the initiative of Mr. F. S. Eckersley, the then Town Clerk of Nairobi, Evening Classes were started in 1937. They were sponsored by the Municipal Council and a Management Committee of ten was elected, consisting of the following:—Mr. F. S. Eckersley, Chairman; two representatives of the Municipal Council, three representatives of the Education Department, and one representative each of the Kenya and Uganda Railways and Harbours, Mines Department, Kenya Society and Commercial Interests.

2. This Committee was later altered and now consists of twelve members as follows: two representatives of the Municipal Council, one of whom, Mr. G. A. Tyson, is Chairman; one representative of the Municipal Native Affairs Department, three representatives of the Education Department, and one representative each of the Kenya and Uganda Railways and Harbours, Nairobi Rotary Club, Indian Community (in abeyance), Tutors in Technological subjects, Director of Training; the African Member of Legislative Council.

3. In the first instance eleven subjects were taught, the subjects being English, French, Latin, Swahili, Bookkeeping, Business Practice, Mechanics, Mathematics, Electrotechnics, Engineering Drawing and Surveying. Later in the year additional classes were commenced in German, Gujerati and Telephony.

4. The subjects taught have varied from time to time according to the demand and the availability of teachers. In all, 23 subjects have been taught at various times, including, besides those mentioned above, Accountancy, Economics, Commercial Law, Speech Training, Italian, Kikuyu, Physics, Transmission and Lines and Radio Communications.

5. The initial enrolment for classes was 317, of which 94 were Europeans and 223 were Asians. This number had increased to 380 by the end of the year 1937. In 1938 the classes continued to be popular and enrolments were 129 at the commencement of the year. The year 1939 saw 135 enrolments, but on the 30th August the classes were suspended owing to the imminence of war.

6. In January, 1941, however, in response to a demand from prospective students, the classes were recommenced with an enrolment of 125, and the subjects taught were French, Bookkeeping, Tele-communications and Technical Electricity, to which German, Swahili and Mathematics were added later in the year, the enrolments having then increased to 213. Of these, 60 were African, classes for whom were run for the first time. The African classes included Elementary Technical Electricity and Mathematics. In the following year the subjects of English and Telephony were added and in 1943 a Bookkeeping class for Africans was commenced.

7. Maximum enrolments for the subsequent years were:—

1942—243, of whom 60 were Africans.
1943—226, of whom 143 were Africans.
1944—123, of whom 70 were Africans.
1945—157, of whom 74 were Africans.

8. The fees charged in the first instance were Sh. 5 per term in each subject, or Sh. 10 for a year of three terms. Upon resumption of the classes in 1941, the fees were still Sh. 5 per term. In 1943, at the suggestion of Government, the fees were increased to Sh. 15 per term in each subject for Europeans and Asians, the fees for Africans remaining at Sh. 5 per term. Tutors' fees were originally Sh. 20 per hour, reduced to Sh. 15 per hour later in the year 1937. Subsequently, the tutors' fees were fixed at Sh. 20 per lecture of about 1½ hours.

9. The classes have always been financed by the Nairobi Municipal Council, who contributed £350 towards the revenue of £571 for the year 1937. Expenditure in that year amounted to £502, divided between salaries, £461, and sundries, £41. The Municipal Council in 1941 suggested that the Government should share with the Municipality the cost of running the classes, and an application for a Government grant was made by the Municipal Council. At first this application was refused, but eventually, in 1944, the Government agreed to give assistance and a grant of £100 was received from the Education Department. This has been increased to £300 in 1943. The subsidies received for 1944 and voted for 1945 are:—

	1944	1945
Nairobi Municipality	£400	£400
Native Trust Fund	50	50
Education Department	100	300
	£550	£750

10. Initially separate classes were held for Europeans and Asian students, but owing to the falling off of the attendance in many of the classes it became necessary to amalgamate them and joint European and Asian classes have been held since 1938.

11. In the first instance there were no particular examinations in view, except in the case of the Swahili class, which was in preparation for the Government examinations held in March and September of each year. It soon became apparent, however, that classes in preparation for some examination certificate were much more popular. The technical classes are now designed primarily to cover the syllabuses of the City and Guilds of London Institute.

12. In 1938 a grouped course of study was arranged in preparation for the Intermediate B.Sc. (Engineering) Degree of London University. The subjects covered were: Pure Mathematics, Applied Mathematics, Physics, Technical Electricity and Engineering Drawing. This course was designed to embrace also the syllabus of the first part of the Associate Membership Examinations of the Institutions of Civil, Mechanical and Electrical Engineers. Owing to the lack of support due to transfers, leave, etc., these classes had to be abandoned.

The Present

13. The classes now being held may be sub-divided into two groups, the subjects taken being:—

(*a*) Non- Technical:

(i) European and Asians.
Italian—Elementary and Advanced.
Swahili—Elementary and Advanced.
Bookkeeping.

(ii) African.
English—Elementary and Advanced.
Bookkeeping.

(*b*) Technical:

(ii) African.
Technical Electricity—Elementary for City and Guilds, Grade 1.
Telephony—Elementary for City and Guilds, Grade 1.

(ii) European and Asian.
Technical Electricity—Elementary and Advanced for City and Guilds, Grades 1 and 2.
Mathematics—Advanced.
Physics.
Applied Mechanics.

(These four subjects embrace the syllabus for Part A of the Examinations of the Institutions of Civil, Mechanical and Electrical Engineers to be held in October, 1945.)

14. The policy of the Management Committee of the Classes has always been to endeavour to arrange a class in any subject for which a real demand exists at any time, and the subjects in which tuition is being given may be taken as a fair indication of the present demand. It will be seen that, apart from languages, the demand is largely vocational training and qualifications. It has been found that attendance is not maintained unless the course of instruction is in preparation for a specific examination likely to assist students in their business or profession.

15. One of the major difficulties is the lack of suitable accommodation and laboratory equipment for the technical subjects. Another difficulty is that of finding tutors. At present the Committee has to rely upon the part-time services of individuals who are already overworked, and the absence of an organizing tutor or principal, has resulted in some lack of system and co-ordination in the classes.

The Future

16. Thus it is clear that it is only with difficulty that the present classes are maintained; not because of lack of support from students, but because the organization itself has no permanent administrative basis, no regular teaching staff and its finances are somewhat uncertain. It is thought that the value of these classes has been proved and the time of experiment and makeshift methods has passed and that the classes should now be expanded and put on a permanent basis. Evening classes could, and should, play a great part in any scheme of mass education and we have an example of what they can achieve in the South African Continuation Classes. It is clear that at present Kenya Colony could not afford a Technical College because the numbers attending would not justify the large staff that would be required. Nevertheless, the time may come when such a Technical College will be justified, and it is from these continuation classes that it is likely to emerge. It is impossible to produce firm figures to prove the justification for the extension of the present classes, but from inquiry it would appear that there will be an increased demand for continuation work as soon as war ends. The Director of Training is collecting information from service men and women as to the training or refresher courses they will require when they again take up their civil life. He states that many of these persons will undoubtedly have to undertake their future training while they are earning and so it will be the continuation classes that they will look to for assistance.

17. The following figures show the number of European service men likely to enter these classes:—

Class	Locally Domiciled	Overseas Persons who intend to seek work in Kenya
Mechanics	6	8
Architects	2	1
Commercial Subjects ...	25	9
Engineering	29	22
Surveyors and Draughtsmen	8	3
	70	43
Total ...	113	

18. In connexion with these figures it must be noted that:—

(*a*) They are for Europeans only.

(*b*) They are taken from the replies to questionnaires sent out by the Secretary of the Civil Reabsorption Board and that the number who have replied is comparatively small, probably not more than 60 per cent of those who intend to reside in Kenya after the war.

(*c*) They only show those who consider now that they are likely to require further instruction. There may be many others who, on returning to civil life, will find that they will need refresher courses to regain their former efficiency or additional training if they hope to avoid dead-end jobs.

(*d*) They do not, on the other hand, prove that this number of persons would in actual fact attend evening classes in Nairobi since a number may reside in other parts of the Colony. Nevertheless, it is suggested that continuation classes should not be confined to Nairobi, but that they should be established in other centres where numbers justify.

(*e*) They do not include Africans. The proposals, however, visualize a far greater number of Africans attending, and it is confidently expected that there will be a large demand for these educational facilities from the African ex-service men, artisans, clerks, traders, etc. The African and Asian numbers will, undoubtedly, be far in excess of the figures given for the Europeans because it is known that, in addition to the present system of European, Asian and African apprenticeship already in operation in the Railways, Posts and Telegraphs and Public Works Department, there are other Government Departments and firms considering apprenticeship schemes. All these apprentices will, undoubtedly, be required to attend continuation classes, either in the afternoons or evenings.

19. One of the prime needs for vocational training is for the training of engineering apprentices, many of whom have not sufficient general education to benefit by the rather specialized and academic instruction in technical subjects which is all that it is possible to give at present. In order that the standard of training of engineering apprentices can be raised to a satisfactory level, a level which will afford the local youth a chance of fitting himself for the more highly paid positions in Government, Railway and Municipal service and in public utility undertakings, such as the East African Power and Lighting Company, Limited, it will be necessary to afford facilities for daily tuition extending over longer periods than is possible during the evenings alone. Part daytime tuition will, therefore, be necessary; in the first instance by agreement with employers, but later by statutory obligations on employers in the form of some sort of apprenticeship Ordinance. Proper grouped courses could then be arranged, designed to ensure that the general scientific education of the apprentice was brought up to a standard which would enable him to absorb and retain the more specialized knowledge which the vocational courses are designed to impart.

20. When the new Regulations under the Electric Power Ordinance, now in draft, are promulgated, it will be necessary for electricians to pass certain examinations before being licensed as wiremen or electrical contractors. There will be a demand for a course to cover instruction to Asian, and possibly African, wiremen and apprentices in preparation for these examinations.

21. Thus, despite the fact that firm figures cannot be given, it is thought that there is sufficient evidence to justify the proposal that the Nairobi Evening Classes should be reorganized and enlarged. This reorganization, we suggest, should be carried out as follows:—

(i) That the name of the organization should be "The Nairobi Continuation Classes";

(ii) That the Continuation Classes should be confined to Nairobi and should, therefore, be operated under the aegis of the Municipal Council of Nairobi;

(iii) That a Management Board should be appointed, consisting of twelve members representing the following:—

Municipal Council of Nairobi (four representatives, two of whom shall represent the Asian community), Education Department, Public Works Department, Posts and Telegraphs Department, K.U.R. & H. Administration, Nairobi Chamber of Commerce, East African Association of Engineers, The Municipal Native Affairs Officer (one representative each), and the Nairobi Native Advisory Council (one African representative).

The Municipal Council shall appoint one of its representatives to exercise the duties of Chairman of the Board.

The Board shall have power to co-opt additional members, and it is suggested that the Director of Training should be so co-opted at the present juncture.

(iv) That the functions of the Management Board should be:—

(*a*) to appoint staff, including a full-time principal, a secretary and treasurer, and the necessary teaching staff on a full-time or part-time basis, as circumstances may dictate;

(*b*) to lay down the general principles to be followed by the principal, who would be responsible for the detailed management of the classes; and

(*c*) to be responsible in general terms for the finances of the organization.

(v) That a principal should be appointed during 1945 and that his first duties be to reorganize the existing Nairobi Evening Continuation Classes so that the new organization comes into being in January, 1946;

(vi) That additional permanent staff and clerical staff shall be appointed as and when required after the principal has produced a detailed plan; the majority of the teaching staff will be part-time instructors, as at present;

(vii) That the number of classes, the subjects taught and the educational standard of the students permitted to take the courses cannot be laid down at this stage, but the general principles to be followed would be:—

(*a*) that the classes should cater for Europeans, Asians and Africans.

(*b*) that the courses should be so designed as to assist such persons to improve their vocational qualifications.

(*c*) that the students should be apprentices or persons who have left school; and

(*d*) that additional courses in general subjects, languages, art and literature can later be introduced if the demand arises.

22. While at this juncture it would be wasteful to erect buildings to house these Continuation Classes, better accommodation must be obtained than that which is at present in use. It is known that the General Manager of the Kenya and Uganda Railways and Harbours is planning to build a new teaching block for the instruction of his railway staff, and it is, therefore, suggested that an approach should be made to him while his plans are still in the early stages of consideration, with the request that he would consider enlarging his plans in order to provide sufficient class rooms, laboratory and office accommodation, to be rented to the Continuation Classes.

23. We well realize that the above proposals lack detail and we find it difficult to produce detailed estimates of the cost because of several unknown factors, particularly the availability of accommodation in existing buildings. As a rough guide, however, the following figures are appended:—

	£
Principal's salary	840
,, leave pay, superannuation, etc.	250
,, house allowance	126
,, war bonus (assuming married with one child) ...	53
Part-time Tutors' fees	900
Text books, library and laboratory equipment (minor) ...	106
Advertising	100
Printing, stationery, bank charges, postages, etc.	75
Contingencies	50
	£2,500
Less: Revenue from fees charged to students*	250
	£2,250

* Based on present revenue. This is unlikely to increase.

In addition, there will be capital expenditure, non-recurring, involved in the purchase of laboratory equipment and text books—an amount of possibly £300 will be required in the first instance. It may also be necessary to add charges for rent, electric light, water, etc., in respect of any buildings which it may be possible to obtain on a rented basis until the plans of the Kenya and Uganda Railways and Harbours for new class rooms are crystallized.

24. It is considered that as the classes are to be confined to Nairobi they should continue to be operated under the aegis of the Nairobi Municipal Council and that both the Municipal Council, the Government of the Colony and the Native Trust Fund should continue to contribute towards the cost. The anticipated deficit of £2,250 per annum should be covered by approximately equal grants from the Municipal Council and Government, coupled with a grant from the Municipal Native Trust Fund.

25. We hope this report will prove our contention that the expansion of the existing Continuation Classes should be encouraged and that the first step which should be taken now is the appointment of a full-time principal.

We have suggested that for the immediate future the organization should be confined to classes in Nairobi, but there are signs of a demand for Continuation Classes in other centres in the Colony and for Correspondence Courses, and we have added a few notes on this aspect with suggestions for the expansion in this direction. These will be found in the next section of the report.

Future Expansion Outside Nairobi

26. At present many residents in the Colony are taking Correspondence Courses from overseas. In many cases the courses they have selected are not the best suited to their requirements and there is an evident need for advice on these Correspondence Courses. At the same time, many would-be students of the Nairobi Continuation Classes are prevented from attending because they reside elsewhere in the Colony. The institution of local Correspondence Courses would enable them to obtain much of the vocational training they desire. It is suggested, therefore, that the possibilities of inaugurating Correspondence Classes and, possibly at a later date, Continuation Classes in other centres, should be investigated by the principal when appointed. He should be instructed to put forward recommendations for the establishment of the necessary organization either as an expansion of the Nairobi organization or as a separate unit—in which latter case, his services might be jointly utilized.

27. In his investigation of this question, the principal should be instructed to inquire into the advisability of taking over after the war the handling of the Correspondence Courses now conducted by the Directorate of Education and Welfare (Army) with the South African Universities. At the end of the war many ex-service men may be found who are half-way through their courses.

28. The principal should also be instructed to inquire into the need for establishing local correspondence courses for Africans. At present a number of Africans, through lack of local facilities, are wasting their time and money on courses ill suited to their needs.

29. The principal should also be instructed to approach the Director of Education and Welfare (Army) with a view to staking a claim for the purchase of the library which has been built up by that Directorate and which is now administered on their behalf by the librarian of the McMillan Library.

30. It is suggested that the principal should inquire as to the advisability of establishing classes at Kisumu and Mombasa. Even if correspondence courses are organized it is thought that these two centres will need Continuation Classes on a small scale, using part-time teachers as is at present the case in Nairobi.

P. E. W. WILLIAMS.
A. O. COSGROVE.

Nairobi, 21st March, 1945.

Appendix 10

REPORT OF THE SUB-COMMITTEE ON WATER DEVELOPMENT

To The Chairman, Kenya Development Committee.

1. It is unnecessary for us to stress the fundamental importance in any programme of development of taking measures to ensure that the Colony's very limited water resources are utilized and developed to the full. In many parts of the Colony water supplies are lacking and the rivers which can be harnessed for major hydraulic schemes are few in number. This absence of surface water supplies has seriously impeded the development of many areas, and public opinion has from time to time been insistent in its demands that further development of the Colony's water resources should be regarded as a matter of the greatest urgency. We entirely share that opinion and we realize that the Government itself is fully alive to the need for achieving rapid progress.

2. Applications have already been made for assistance from the Colonial Development and Welfare Vote in respect of three distinct schemes—

(*a*) an increase in hydrographic survey staff during the war;

(*b*) a reconnaissance survey of the Tana River area to determine whether a detailed survey is justified, with a view to the inauguration of an irrigation scheme; and

(*c*) a comprehensive 6-year programme for the general development of the Colony's water resources to be undertaken in the post-war period.

3. These applications have been approved in principle for assistance from the Vote, and the Government is in a position to press ahead with all of them as soon as the necessary staff, plant and materials can be made available, but in some cases additional hydrologic data will be required. This presents serious difficulty and efforts made by the Government to recruit suitable staff so far have been to a great extent unsuccessful. As regards this staff, the end of hostilities in Europe and the consequent reallocation of man power may well enable additional staff to be obtained, and we have suggested that the possibilities of obtaining such staff by the release of qualified men from the armed forces should be taken up once again. In the meantime, where the collection of hydrologic data depends only on the erection of weirs and the training of African recorders, we recommend that work should be started at once on the erection of such weirs.

4. There is some evidence that the designation "Assistant Hydrographic Surveyor" is a deterrent to the appointment of young officers as they naturally prefer to be assigned to the design and construction of works rather than being required to carry out hydrologic investigations only. In certain cases, and provided their training and experience are suitable, there is no reason why officers whose services are utilized on hydrologic investigations should not subsequently be put in executive charge of hydraulic works decided on as a result of their investigations, and indeed that is a logical course to follow. We therefore recommend that the Government should consider altering the designation of the post of Hydrographic Surveyor to the title of "Assistant Engineer (Hydrology)".

5. The question of the provision of plant and piping presents considerable difficulties at present, but it would appear that supplies may become less restricted in the near future in consequence of the end of hostilities in Europe. Indents for considerable quantities of plant and equipment have been sent to the Crown Agents and substantial orders have been placed through private channels. The placing of an indent or an order is, however, very diffierent from its execution, and we consider that continuous representations should be made to the appropriate authorities in the United Kingdom stressing the urgency of the matter.

6. The probable shortage of piping, boring plant and other equipment during the next year or two will necessitate great care in the matter of allocation in order to ensure that such supplies as are available are utilized to the best advantage in the interests of the development of the Colony generally. We consider that this allocation can most conveniently be carried out by an authority specially appointed by the Government for the purpose. In practice the allocation of boring plant is, we understand, now carried out by a small committee consisting of the Chief Native Commissioner, the Director of Non-Native Production and the Hydraulic Engineer acting in concert, and a similar authority would appear appropriate for the more general purpose that we have in mind.

7. As we have observed, approval has been accorded in prinsiple to three schemes involving assistance from the Colonial Development and Welfare Vote, but practically none of the money has been spent up to now because of difficulties regarding staff and equipment. We have accordingly taken the opportunity to review the financial provision made in these schemes in the light of the latest information, and we recommend that the United Kingdom authorities should be invited to concur in the revised proposals incorporated in Schedules 1–9 of Appendix A to this Report.

8. In making this recommendation, however, we feel it our duty to stress the supreme difficulty of furnishing anything in the nature of accurate estimates in respect of a programme of water development at a time such as the present. The dates on which staff, plant and materials may become available can be no more than conjecture; the results of investigations and surveys likewise cannot be foreshadowed, nor is it possible to form any reliable opinion regarding the future costs of labour and materials. It is therefore necessary that all estimates should be regarded as in no way firm but susceptible to revision from time to time in the light of changing conditions. We assume that the financial arrangements under the present Colonial Development and Welfare Act have been designed to provide the necessary flexibility. We stress the point in this place because we would not wish it to be thought that the estimates included in Appendix A to this Report, even though they have been revised, necessarily represent any close approximation to the probable expenditure on capital development.

9. The schemes which have already been approved in principle (Schedules 1–9 of Appendix A) represent projects which are essentially developmental in character and do not include any provision for the installation or expansion of water supplies in the various townships and urban areas. We

regard this policy as generally sound and we consider that such staff and plant as can be made available should be utilized as far as possible for the investigation and execution of works which should enable the development of rural areas, including local industries, to be intensified rather than for the provision of what in many cases can only be regarded as an amenity. It would, however, be unwise to attempt to lay down any hard and fast rule as there may be instances in which water supply development in urban areas and townships would be of the utmost value to the development of the Colony as a whole; for example, the provision of water for Nairobi and Mombasa in view of the special relationship of those towns to the Colony as a whole, or supplies in areas where the provision of water would facilitate industrial development. Apart from cases of this sort, we consider that the provision of water supplies in townships should be relegated to a lower degree of priority, but we fully realize that during the war period it has not been possible to keep pace with the growing demand in many townships and that it will be necessary to effect improvements, extensions and augmentations at many township supplies. They should be undertaken as and when staff, plant and finance permit and where they can be carried out without detriment to schemes calculated to develop the Colony's natural resources.

10. Turning to the schemes already approved for assistance under the Colonial Development and Welfare Act, it is essential to emphasize the urgent importance of hydrographic survey and hydrological investigations. Facts are indisputable prerequisites to action and schemes not based on predetermined facts cannot be defended. It is therefore necessary to undertake a complete hydrological survey of the Colony at the earliest possible moment. (Schedule 1.) It is important to emphasize that the hydrologic investigations are distinct from, although an essential preliminary to, the project surveys.

11. The Tana River survey (Schedule 9) is also urgent and should be carried out immediately the necessary staff becomes available. A preliminary reconnaissance of the area was made in 1934 by a distinguished engineer and agriculturist, both of whom considered that a *prima facie* case for further reconnaissance and investigation has been fully established. If an irrigation scheme in this area proves to be feasible, a very large region at present entirely undeveloped could be opened to African settlement.

12. A token grant of £5,000 for pollution abatement has been approved (Schedule 2), and the question of carrying out the necessary investigations and experiments has been taken up with the Industrial Research Board. The object of the experiments is to devise an economical means for treating effluents from coffee and sisal factories, so as to reduce the very heavy pollution now occurring in many small streams. It is proposed that the results of such investigations and experiments, if successful, should be utilized to reduce pollution in small streams.

13. Perhaps the most important scheme for which provision has been made is in respect of the piping of small streams (Schedule 3). This scheme should facilitate the provision of water in native reserves and on groups of farms where ground—or other—water is not readily available, and any such

projects which prove possible should therefore be of direct benefit to development. We consider that work on these projects should be pressed forward as rapidly as possible. Much information about a number of the rivers concerned is already available, but surveys will be necessary to determine the alignment of the piping, etc. We note that the Secretary of State has approved the provision of £95,000 to be spent over a 3-year period and has decided that for the time being it should be regarded as a loan from the Vote free of interest.

We agree that water supplies of this type should not be provided free of charge, particularly as in many cases they will enhance the value of the private lands served by them. Each case will have to be considered on its merits and financial arrangements negotiated with potential consumers before work actually begins. In certain native areas circumstances may be such as to render it difficult or undesirable for a charge to be made for water provided under a scheme, and in such areas we recommend that no charge should be made and that the money provided for the execution of the scheme should be regarded as a free grant.

14. Provision has also been made for assistance from the Colonial Development and Welfare Vote in respect of a subsidy on unsuccessful boreholes in alienated areas (Schedule 4). The present rate of subsidy is satisfactory and we recommend its continuance. Progress on this scheme is at present being held up through the lack of drilling plants. We understand that a number of additional plants are now on order and we recommend that the Government should press for early shipment.

15. We take this opportunity to refer to the question of drilling generally. We consider that the present system under which drilling is carried out by contract is satisfactory, and we recommend no change. The programme which we envisage in alienated areas, in the Native Land Units and in the Northern Frontier District and Turkana, is so large that we feel that a considerable number of additional drilling plants could be fully utilized for a considerable period after the war. There are at present some 12 or 13 drilling plants in the country and we have reached the conclusion that a further 20 at least could be fully employed. We recommend that the private companies concerned should be invited to consider placing orders for additional machines.

16. Assistance has also been approved for financing boring and well-sinking in native reserves (Schedule 5). Apart from the selection of suitable sites, boring is fairly straightforward and we have no comments, but we consider that the Government should take further steps to encourage the digging of wells where the depth of the water table is suitable for the purpose. We understand that there are certain gangs of African well-diggers employed in various parts of the country on a basis of contract. We recommend that the Government should take all possible steps to encourage this form of enterprise where the material will stand up without lining, and should itself employ such gangs in carrying out a programme of well construction.

17. Apart from drilling, the construction of small dams, excavated tanks and the development of rock catchments are of the first importance and considerable work can be carried out in native areas under the supervision of

District Commissioners and agricultural officers. The Secretary of State has approved the necessary financial provision (Schedule 6) on the basis that detailed estimates in respect of each project should be submitted in advance after proper surveys. In our opinion, this is impracticable in the case of small dams and would result in entirely unwarranted delay in the preparation of projects and putting them into execution. Experience has shown that small dams of, say, 50 acre-feet capacity, which are entirely adequate and effective for their purposes, can be constructed in many cases without any special technical qualifications and in some cases without any special technical advice. This work, in our opinion, should be carried out by the allocation of funds to District Commissioners. Reports can be sent to the Secretary of State at appropriate intervals indicating the progress achieved, and, should the Secretary of State be dissatisfied with the value being obtained for the funds voted, the procedure adopted could be reviewed.

18. We consider that much can and should be done in the way of the construction of very small dams or "farm ponds" by individual Africans on the land they occupy without any Government organization, and, indeed, individual natives in certain districts have shown considerable enterprise. We recommend that this enterprise should be encouraged by Local Native Councils who should purchase dam scoops and issue them free on loan to individual natives when required. In paragraph 32 of this Report we make reference to the question of the construction of large storage projects, while the present and the preceding paragraphs are largely concerned with small dams. We feel that the great value of medium-sized earth dams should not be overlooked, and by medium-sized dams we have in mind those of between 100 and 500 acre-feet capacity which can be made by modern earth-moving machinery in a comparatively short time and costing from £1,000 to £5,000 each. With this in view we recommend that £50,000 should be allocated for such work; £10,000 for expenditure in the first year and £20,000 in each of the two succeeding years. Financial provision has been incorporated in Schedule 6 of Appendix A of this Report.

19. Dam construction in the alienated areas ought also to be encouraged. After careful consideration we do not recommend any direct subsidy, partly because of the administrative difficulties which would be involved in operating it, but chiefly because the construction of any successful deep dam would automatically enhance the value of the farm to a prospective purchaser. We do, however, feel that technical advice, where required, should continue to be given free and that advances for the purpose of construction of additional water supplies should be readily obtainable from the Land Bank at reasonable rates of interest, and we understand that a reduction of the present Land Bank rate of interest is under consideration. If a substantial reduction is achieved, the case should be met to a considerable extent.

The suggestion has been made to us that the Government should lend money to District Councils for the purpose of encouraging and facilitating the provision of water supplies on private land in District Council areas. From preliminary examination it appears that the proposals submitted to us would involve the enactment of legislation making provision on the following lines:—

(*a*) The Government may lend money to District Councils for the purpose of constructing dams and sinking boreholes on private land.

(*b*) With the consent of the landholder, a District Council may construct a dam or sink a borehole on private land, either utilizing the landholder himself or someone else as contractor.

(*c*) Before doing so, technical advice would have to be taken on the plans and the project approved by the District Council. In the case of boreholes, the farmer would have to produce the money in the first instance and could recover from the District Council if the borehole is successful and would recover the normal Government subsidy from the Government if it was not.

(*d*) When a successful dam was constructed or a successful borehole made, the landholder would be required to maintain it to the satisfaction of the District Council. If he failed to do so, the District Council could step in and carry out any necessary maintenance itself, recovering the cost from the farmer, if necessary by distraint.

(*e*) The farmer concerned would have to pay a statutory water rate of such amount as the District Council may prescribe. This water rate would attach to the land and would be unaffected by any change of ownership.

(*f*) If for any reason the water rate was not recovered, the District Council's obligation to meet interest and amortization of the land would not be affected; the balance would be a charge on the rates.

The advantage claimed for this scheme is that it would not involve the surrender of title deeds as in the case of Land Bank loans, and there is, of course, the further point that were any such scheme to be introduced it could be applied in suitably modified form to local native councils. The scheme as a whole, however, merits consideration and as a first step we recommend that the views of the District Councils should be sought thereon. Pending the receipt of such views by the Government we consider that it would be premature for us either to make a final recommendation or to suggest the provision of any specific sum for the purpose of loans of the type envisaged.

20. The question of the provision of additional water supplies in the Northern Frontier, Turkana and Samburu districts is of the utmost importance to the native inhabitants of those areas. The whole matter has recently been the subject of examination by Dr. Dixey who was seconded by the Government of Northern Rhodesia to carry out the necessary investigation. Dr. Dixey recommends a large-scale programme involving the drilling of boreholes and the excavation of tanks, the whole programme involving expenditure estimated at £483,700 over a period of six years. We have not considered it necessary to reproduce Dr. Dixey's recommendations in full but we support them and recommend the adoption of his report, subject to the expenditure being spread over a period of ten years for the reasons stated below. A revised estimate of the total expenditure involved will be found in Schedule 10 to Appendix A. In recommending that the proposals made by Dr. Dixey should be agreed to but that the expenditure should be spread over ten years instead of the period of six years envisaged by Dr. Dixey, we have sought to equate

two conflicting sets of considerations. On the one hand it cannot be claimed that the scheme proposed by Dr. Dixey complies with the principles summarized in paragraph 4 of the Interim Report of the Development Committee in so far that there is no prospect that the execution of the scheme will result in an improvement of the economic conditions and an increase of the real income of the peoples of the Northern Frontier District, Turkana and Samburu sufficient to enable them to pay for the cost of the scheme. On the other hand it appears to us indisputable that unless the works recommended by Dr. Dixey are carried out, conditions in those areas will continue to deteriorate and before long they will not be a negative asset but a positive liability to the Colony. Our conclusion, therefore, is that the scheme should be carried out in full but that its execution should be spread over the extended period of ten years, otherwise the amounts available for other projects, of greater immediate income-earning capacity, may be reduced to an extent unwarranted by the benefits to be derived from the provision of extra water in the Northern Province.

In recommending the adoption of Dr. Dixey's report we wish to stress two points. Dr. Dixey makes it clear, and his view is fully supported by the administrative officers of the areas concerned, that the provision of additional water supplies in these areas will lead to further denudation of the soil unless a strict system of control of grazing is introduced and enforced at the same time. The precise nature of the system is a matter which should be worked out by the Administration in consultation with the Veterinary Department, and the objective should be to ensure that where a new area is opened up during the dry weather by the provision of additional water the area in the neighbourhood of the water supply should not be overgrazed and, in particular, that damage by trampling in the immediate proximity to water supplies should be avoided.

21. The districts concerned can hardly be regarded as positive economic assets to the Colony and it must be recognized that their carrying capacity as ranching country will always be limited. Nevertheless, the provision of additional water supplies should serve to make them considerably less uneconomic than they are at present, as they are essential to open up new grazing areas and to reduce over-grazing. Expenditure on the areas in question is bound to exceed revenue for as long as we can foresee, and we therefore consider that the provision of funds to carry out Dr. Dixey's recommendations should take the form of a free grant from the Colonial Development and Welfare Vote.

22. It has been found necessary to require that a certain proportion of the dry weather flow of the Uaso Nyiro should enter the Northern Frontier District and this has resulted in restriction of the normal flow available for riparian landholders in the upper portions of the catchment area. It would accordingly be to the advantage both of such landholders and also of the tribesmen in the Northern Frontier District if further steps could be taken to increase the flow of the Uaso Nyiro and/or its tributaries. Provision has been made for a complete investigation into possible methods of achieving this (Schedule 7), and we recommend that this investigation should proceed with all possible speed.

23. The importance of the development of the Colony's water resources has led us to consider whether or not there is a case for a separate department of water development. At present water development falls within the purview of the Public Works Department, but in fact the Director of Public Works is preoccupied to so great an extent with other works, such as roads and buildings, that inevitably the practical day-to-day direction of water development falls within the scope of the Hydraulic Engineer. The arrangement has the advantage that under it members of the hydraulic staff enjoy the services of other branches of the Department, e.g. the Accounts and Stores branches, but they do not normally deal directly with the central Government nor are they directly represented on various boards dealing with the conservation of water and connected subjects.

24. As we have indicated, we attach the greatest importance to acceleration of hydrologic investigations and subsequent survey and design of specific projects which should follow the hydrologic investigations with all possible speed by the project-investigation staff.

25. In all the circumstances, we consider that there is a very strong case for the creation of a separate water development department to carry out the following duties:—

(*a*) Hydrologic investigations and determination of the surface and subsurface water resources of the Colony;

(*b*) investigation and design of projects for the conservation and utilization of these resources;

(*c*) experimentation on the use and duty of water, pollution abatement, etc.;

(*d*) administration of the water law and advice on water legislation generally;

(*e*) selection of borehole sites; and

(*f*) advice to farmers and others.

26. We do not recommend that the Department should be responsible for the installation and maintenance of township water supplies, except for the provision of advice in the first instance. It would, however, be responsible for water boring throughout the Colony and, in certain cases, the installation of borehole pumping plants. Apart from this, construction works would be carried out either by contract or by the Divisional staff of the Public Works Department.

27. We would regard it as essential that the proposed department should work under the general direction and control of the Member for Agriculture, Animal Husbandry and Natural Resources and in the closest co-operation with other departments, particularly with the Public Works Department with whom it would be necessary to share various facilities, such as stores, materials and testing laboratories. Moreover, the existing Divisional organization of that Department should be used for the operation and maintenance of water supplies and also for their construction where desirable.

28. The setting up of a new department would have the effect of divorcing the investigational and planning side of water development from a mass of detailed work connected with particular supplies. It would also represent a most suitable organization to undertake the administration of the water law. In our view the Director should be an officer with suitable technical qualifications and his time should not be utilized to any appreciable extent in administrative duties, though naturally as the head of a department he would be required to assume administrative responsibility. The staff of the department would necessarily be large in the early stages at least, because of the serious arrears of work accumulated over a long period. Some indication of our views regarding the staff necessary will be found in Appendix B, but some of the salaries suggested there may require upward revision. The expenditure envisaged in that Appendix is £26,600 more than the provision made for the Hydraulic Branch in the 1945 Estimates and £20,335 more than the provision which the Hydraulic Engineer expects will be necessary for the Branch in 1946 on the present basis.

29. We have reviewed the recommendation in paragraph 15 of the Interim Report on Development that the Government should take steps to secure the services of an experienced water engineer from the United States of America. We understand that in making that recommendation the Development Committee had in mind the appointment of an officer in a consultative capacity. This recommendation has not been accepted by the Government, whose attitude is expressed in Sessional Paper No. 2 of 1945, the relevant paragraph of which reads as follows:—

> "The Government has not yet reached a decision on this recommendation, and is in any case unwilling to commit itself to any particular source of recruitment in a matter in which professional qualifications and experience must be the decisive criteria. The Government does, however, agree that the best staff available must be engaged for the vital work of water conservation. The East African Governors' Conference has agreed to engage a high grade team of experts to investigate the possibilities of electric power development in East Africa, and the Government has already secured the services of a prominent consulting engineer from the Union of South Africa to investigate the possibilities of developing greatly increased water supplies from the rivers rising on the eastern slopes of the Aberdares and Mount Kenya. These investigations will be co-ordinated."

We realize that if full use is to be made of the services of a consulting engineer, as recommended by the main committee, it would be necessary that adequate hydrographic information should be at his disposal and that until the hydrographic survey had made considerably more progress than up to the present adequate information would not be available.

30. The achievements of the Tennessee Valley Authority have been by no means limited to the harnessing of water for development purposes but have covered the general development and reclamation of a very large area of land, presenting agricultural problems in many ways analogous to the problems presented by large areas in this Colony, and we feel that the advice

of an officer with direct personal experience of the work carried out by the Tennessee Valley Authority might well be of great value to the Colony now, though it would not be possible to utilize the services of a water expert in a consultative capacity because of the lack of hydrographic data. We therefore recommend that such an officer should be appointed for a period of, say, two to three years. It would probably be appropriate that he should work under the aegis of the Development Authority. He would no doubt keep in close and constant touch with the Hydraulic Branch of the Public Works Department.

We appreciate that the Government naturally cannot commit itself to any particular source of recruitment and that professional qualifications and experience must be the decisive criteria in any such matter, but it seems to us doubtful whether it will be possible to obtain an officer with sufficient experience to advise on the matters in question from any source other than the United States.

31. The Sessional Paper quoted in paragraph 29 of this Report refers to the engagement of a team of experts to investigate, on an East African basis, the possibilities of electric power development. Investigation of possible major hydro-electric projects will no doubt be required when sufficient hydrographic information is available, but we understand that considerable information regarding relatively minor hydro-electric projects is available in the Colony. Such projects include the harnessing of the Yala River, the Sondu River, the Nzoia River, the Tana-Mathioya, the Tana-Maragua, the North Mathioya and the Gura. These projects should be examined by the sub-committee appointed to deal with industrial development. In the development of hydro-electric projects the first essential is that the civil engineering side should be examined. This is particularly so in Kenya with its small and limited rivers and the difficulties in many areas in connexion with large storage reservoirs.

32. In paragraphs 17 and 18 we have referred to the construction of small and medium-sized dams. Stress has also frequently been laid on the necessity of embarking upon large projects for the conservation of flood flows. It must, however, be emphasized that the first essential before embarking on any large storage project is hydrographic survey. Conditions in this Colony for the construction of large storage projects are far from favourable in some areas, due to one or more circumstances, such as in many areas steep longitudinal sections of the rivers, extremely poor foundation conditions (including the flanks), in many areas heavy silt and sand content, and in many areas extremely low run-off in normal rainfall and drought periods. In these circumstances all those sites which lend themselves to development should be carefully explored and should be developed if it is economically possible to do so.

Our attention has, in particular, been directed to the possibility of constructing a dam on the Narok River above Thomson's Falls. From the information available to us it appears that this project is worthy of further investigation and consideration and we recommend accordingly. The decision, however, whether in any particular area a dam should be constructed or not should not rest solely on direct economic advantages. We mention this because

in certain native areas, given rigidly enforced control of grazing, a few deep medium-sized dams would be of great value to the people not only as an amenity but also in providing additions to their diet in the form of fish.

33. The plans mentioned in this Report and detailed in the Schedules to the Appendix deal very largely with the financing of hydrographic investigations, except insofar as the northern areas are concerned. We wish to stress that these plans do not represent a comprehensive programme for the development of the Colony's water resources but merely form the basic preliminaries to such development. Water development itself will require very heavy capital expenditure spread over a long period of years, and it cannot be foreseen when water supplies on as adequate a scale as possible can be provided for the Colony. Expenditure on water development, if undertaken wisely, should enable a very great increase in the national income to be achieved and without it there can be no question of any substantial and lasting progress or of the full utilization of the natural resources with which the Colony has been endowed.

34. In conclusion we desire to refer to Appendix III to the Interim Report of the Development Committee which contains a summary of the proposals, involving capital expenditure already submitted to the Committee. In the opinion of this, the Water Development Sub-committee, the development of the natural resources of the Colony should have priority in the allocation of funds over both the social and public services, and further that, of those natural resources to be developed, water should have first priority and the funds to be made available for its development should be larger in proportion to the total expenditure on all development projects than the proportion indicated in Appendices I and III of the Interim Report.

J. F. G. TROUGHTON,
Chairman.
FRANCIS SCOTT,
*A. E. M. TETLEY,
H. B. HAMILTON,
F. H. DE V. JOYCE,
A. L. GLADWELL,
Members.

K. W. SIMMONDS, *Secretary.*
19th October, 1945.

* *Signed subject to following note.*—With reference to paragraph 30, the achievements of the Tennessee Valley Authority have been by no means limited to harnessing of water for developmental purposes but have covered the general development and reclamation of a very large area of land, and it is believed by many people in Kenya that the problems there are analogous to the local problems. The comparison, however, between the Tennessee Valley and this Colony is ridiculous and nothing further need be said on the proposal of bringing in an officer or water engineer from the Tennessee Valley Authority. I also consider that the advice of the local technical staff should be accepted without the necessity for bringing in a lot of "experts" from other countries. The advice of consulting engineers or other consultants will no doubt be required on certain matters when specific projects or schemes are considered.

A. E. M. TETLEY.

APPENDIX A

(*Note.*—The schedules of estimates contained in this Appendix are based on the details contained in Appendices F, G and H to Secretariat Circular Letter No. 44 of the 29th of April, 1944 (hereafter referred to as "S.C.L. 44/44") with the exception of Schedule 10 (Expenditure recommended in Dr. Dixey's Report on the Northern Frontier District, Samburu and Turkana) which is a new scheme in respect of which no application has yet been made for assistance from the Colonial Development and Welfare Vote.

In the case of each schedule (excluding Schedule 10) the estimates given below represent an increase of about 40 per cent over the original estimates to cover the substantial increases in the costs of material, equipment, transport, salaries and labour which have taken place since the original estimates were framed. In the particular case of salaries, the position is that no satisfactory staff can be expected to be forthcoming unless attractive salaries and terms of service are offered, and in any case the bulk of the staff to be recruited will probably be obtained from amongst demobilized members of the military forces whose age and war service must be taken into account in determining the salaries to be offered and the points on salary scales at which such persons should enter.

It is essential to stress that, in consequence of present unsettled conditions and the difficulty of gauging future price trends with any degree of certainty, all the estimates given below are of necessity very tentative in character and are subject to revision in the light of alterations in prices, the supply position, availability of staff, etc.)

SCHEDULE 1—HYDROGRAPHIC SURVEY AND STAFF

The estimates below incorporate two separate Colonial Development and Welfare Vote schemes, the first being the scheme for hydrographic surveys described under Scheme A in Appendix F to S.C.L. 44/44, the second being the scheme for hydrographic surveys—staff, described in Appendix G to S.C.L. 44/44.

The objective is to supplement substantially the existing staff of the Hydraulic Section of the Public Works Department to enable hydrographic surveys to be carried out on an extensive scale as the basis on which all water planning and development must be founded.

Hydrographic Surveys.—	*Original Estimate* £	*Revised Estimate* £
Lorries and equipment	2,000	3,000
Recurrent expenditure for four years at original estimated average of £6,000 per annum	24,000	35,280
Hydrographic Surveys—Staff—		
Lorries and equipment	1,340	2,080
Recurrent annual expenditure for four years	17,660	21,280
Total:	£45,000	£61,640

Amounts approved from Colonial Development and Welfare Vote and additional provision required

Hydrographic Surveys.—Free grant of £26,000, conditional upon staff being obtainable. An additional £10,400 required either from the Colonial Development and Welfare Vote or from some other source.

Hydrographic Surveys—Staff.—Free grant of £19,000 approved. An additional £7,600 required, either from the Colonial Development and Welfare Vote or from some other source.

ANNUAL DIVISION OF EXPENDITURE ON BASIS OF REVISED ESTIMATE

	Expenditure already incurred	First Year	Second Year	Third Year	Fourth Year
	£	£	£	£	£
Hydrographic Survey ..	—	8,400	11,200	10,280	8,400
Hydrographic Surveys—Staff	2,600	8,000	8,000	4,760	—
TOTALS .. £	2,600	16,400	19,200	15,040	8,400

SCHEDULE 2—TREATMENT OF STREAM POLLUTION

(Scheme B in Appendix F to S.C.L. 44/44)

The object of the scheme is the carrying out of experiments into the treatment of effluents from coffee and sisal factories to prevent or reduce pollution of streams. It is envisaged that the East African Industrial Research Board should conduct the experiment on behalf of the Government.

Original estimate £5,000

Revised estimate £7,000

Amount of free grant approved from Colonial Development and Welfare Vote £5,000

Additional provision required from Colonial Development and Welfare Vote or other sources £2,000

Annual division of Expenditure on basis of Revised Estimate

1st Year: £1,400; *2nd Year*: £1,400; *3rd Year*: £2,100; *4th Year*: £2,100.

SCHEDULE 3—PIPING, ETC., OF SMALL STREAMS

(Scheme C in Appendix F to S.C.L. 44/44)

The object of this scheme is the piping of small tapering streams to bring water to areas where difficulty is experienced in obtaining water in the dry weather owing to losses caused by seepage in the stream bed.

Original estimate for full scheme for expenditure over six years £200,000

Amount of free loan, expendable over three years, approved from Colonial Development and Welfare Vote ... £95,000

Revised estimate of expenditure over three years £133,000

Additional provision required whether by loan from Colonial Development and Welfare Vote or other source, for the three-year period £38,000

Annual Division of Expenditure on Basis of Revised Estimate

1*st Year*: £21,000; 2*nd Year*: £56,000; 3*rd Year*: £56,000

SCHEDULE 4—BORING IN ALIENATED AREAS

Scheme D in Appendix F to S.C.L. 44/44)

This scheme, as originally submitted, provided for the payment in equal shares from Kenya Government funds and Colonial Development and Welfare Vote money of the cost of the subsidy of 70 per cent (with a maximum of £250) of the cost of unsuccessful boreholes drilled on approved sites. A free grant of £7,500 expendable over three years has been approved from the Colonial Development and Welfare Vote. Since the date of the application to the Colonial Development and Welfare Vote the system of subsidization of unsuccessful boreholes drilled at approved sites has been revised on a depth-yield basis with a maximum subsidy of 75 per cent (with a maximum payment of £600) of the cost of the work. Costs of boring and casing have increased and it is considered that the Colonial Development and Welfare Vote grant of £7,500 should be increased by 40 per cent, either by applying for an increased grant from the Colonial Development and Welfare Vote or by obtaining the additional funds from such other source as may appear appropriate.

Original estimate	£7,500
Revised estimate	£10,500
Additional provision required	£3,000

Annual Division of Expenditure on Basis of Revised Estimate.

1*st Year*: £2,500; 2*nd Year*: £4,000; 3*rd Year*: £4,000.

SCHEDULE 5—BORING AND WELL-SINKING IN NATIVE AREAS

(*Scheme E in Appendix F to S.C.L.* 44/44)

When the original estimates were drawn up for the purpose of the application for assistance from the Colonial Development and Welfare Vote it appeared that a sum of £60,000 spread over five years would be the minimum provision required. A free grant of £34,000 spread over three years was approved. In the light of the replies furnished by the Provincial Administration to a questionnaire circulated to them by the Hydraulic Engineer it appears that the total of boring and well-sinking requirements in native areas, excluding the Northern Frontier District, Turkana and Samburu, is of the order of £420,000, but it is not contemplated that a programme as extensive as that which is involved in expenditure on such a scale could be carried out in the immediate future. The Hydraulic Engineer considers that if allowance be made partly for increased costs and partly for an expansion of the original programme, the original approved amount of £34,000 might be increased by £39,000 to bring it up to £75,000, and that the annual division of expenditure on this revised basis should be:—

1*st Year*: £8,000; 2*nd Year*: £25,000; 3*rd Year*: £40,000.

Schedule 6—Dams, Excavated Tanks and Development of Rock Catchments

(Scheme F in Appendix F to S.C.L. 44/44)

It is envisaged that the bulk of the work under this scheme will be carried out by District Commissioners and accordingly expenditure at a high annual rate cannot be expected. In the event, the annual rate of expenditure suggested below may prove optimistic. The original total amount for which application was made for assistance from the Colonial Development and Welfare Vote was £50,000 for all areas, to be spent over a period of six years. Approval was given to a loan of £25,000 from the Colonial Development and Welfare Vote, subject to the position being reviewed at the end of three years with a view to the conversion of the loan into a free grant if circumstances warranted such a step. The revised estimates below include an additional £50,000 for the construction of medium-sized dams as recommended in paragraph 18 of the report.

Original Colonial Development and Welfare Vote loan ...	£25,000
Revised estimate	£35,000
Additional provision required	£10,000
Construction of medium-sized dams	£50,000
Total additional provision required	£60,000

Annual Division of Expenditure on Basis of Revised Estimate

1st Year: £17,000; *2nd Year*: £34,000; *3rd Year*: £34,000.

Schedule 7—The Uaso Nyiro Drainage Area

(Scheme G of Appendix F to S.C.L. 44/44)

The object of this scheme is primarily an investigation of the question whether the flow in the Uaso Nyiro can be increased and whether the water supplies in the whole drainage area can generally be improved; during the course of the investigation it will probably be found desirable to construct preliminary works including canals.

Original estimate	£21,000
Revised estimate	£29,400
Free grant approved from Colonial Development and Welfare Vote	£21,000
Additional provision required	£8,400

Annual Division of Expenditure on Basis of Revised Estimate

1st Year: £2,000; *2nd Year*: £6,000; *3rd Year*: £10,700; *4th Year*: £10,700.

(Original scheme was for five years. Now reduced to four years owing to urgency of need for improvement of water supplies in Uaso Nyiro.)

Schedule 8—Artesian Basin, Aberdares–Mount Kenya

(Scheme H in Appendix F to S.C.L. 44/44)

We are informed that the investigation into the possibility of an artesian basin lying between the Aberdares and Mount Kenya has been carried out by a geologist of the Mining and Geological Department. His report indicates that the prospects of obtaining artesian water in the area in question are poor. The project must therefore be abandoned, but the position reached is mentioned here for purposes of record.

Schedule 9—Upper Tana River—Survey for Irrigation Scheme

(Appendix H to S.C.L. 44/44)

The object of the scheme is to carry out a general reconnaissance of the Upper Tana River area with a view to ascertaining whether an extensive irrigation project can be established in that region, as had been suggested by Messrs. Harries and Sampson in their report of the Tana River Expedition, 1943.

Original estimate—	
£4,400 recurrent; £1,600 capital	£6,000
Revised estimate—	
£6,160 recurrent; £3,240 capital	£8,400
Free grant approved from Colonial Development and Welfare Vote	£6,000
Additional provision required	£2,400

Annual Division of Expenditure on Basis of Revised Estimate

1st Year: £5,200; *2nd Year*: £3,200.

Schedule 10—Water Supplies in N.F.D., Samburu and Turkana

Dr. F. Dixey, Director of Water Development, Northern Rhodesia, at the request of the Government of Kenya, spent six months in the Colony during the latter half of 1943 for the main purpose of carrying out, with the co-operation of the Hydraulic Engineer, Public Works Department, a hydrographical survey of the Northern Frontier Extra-provincial District, the Samburu Sub-district of the Laikipia-Samburu district, and the Turkana Extra-provincial District. Dr. Dixey's recommendations for the improvement of water supplies in those areas were contained in a report dated the 14th of January, 1944, and the following estimates, covering plant, buildings, equipment, works and supervision, are based on the estimates drawn up by Dr. Dixey, but 10 per cent has been added to cover increases in costs since the estimates were originally prepared. For the reasons stated in paragraph 20, it is recommended that the execution of the scheme should be spread over a period of ten years, and it is contemplated that the work should be carried out by contract.

	Original Estimate	*Revised Estimate*
Northern Fronter District	£332,428	£365,670
Samburu	£47,000	£51,700
Turkana	£60,000	£66,000
Total:	£439,428	£483,700

Annual Division of Expenditure on Basis of Revised Estimates

First year	£30,700	Sixth year	£50,000
Second year	£53,000	Seventh year	£50,000
Third year	£50,000	Eighth year	£50,000
Fourth year	£50,000	Ninth year	£50,000
Fifth year	£50,000	Tenth year	£50,000

The basis of computation of the *original estimates* is set out in the tables below, but figures should be taken with reserve as changing circumstances may necessitate modification of the allocation of expenditure to the various charges.

Northern Frontier District—

Capital—

Building	£10,850
Five drills and equipment	£22,750
Erection equipment for boreholes	£1,620
Mechanical plant for tank units	£17,000
Well-sinking equipment, including lorries	£2,000
Lorries and equipment for headquarters staff	£5,140
	£59,360

Recurrent—

One senior Engineer-Geologist and one junior Engineer-Geologist, including all charges, for six years	£20,418
Headquarters stores and accounts for 5½ years	£4,650
Drilling Inspector, including all charges for 6 years	£10,000
Drilling 10,000 feet per year for 5 years at £2.35 per foot all in	£116,500
Provision and erection of plant at successful boreholes (5 years)	£70,000
Construction of tanks (2 years)	£37,500
Construction and repair of wells (2 years)	£4,000
Cleaning, re-equipping, etc., of boreholes to be taken over from Military	£10,000
	£273,068
Total recurrent expenditure	£273,068
Add capital expenditure	£59,360
Total:	£332,428

Samburu—

Capital	£6,000
Recurrent	£41,000
Total:	£47,000

Turkana District—

Capital—

Two drills complete with equipment and sundries	£10,000

Recurrent—

Drilling 17,000 ft.	£38,000
Equipping 50 shallow boreholes	£7,000
Equipping 4 deep boreholes	£4,000
Cleaning, reconditioning and equipping 4 existing shallow boreholes	£1,000
Total:	£60,000

SUMMARIES—I

Schedule	Original estimate	Revised estimate	Colonial Development and Welfare Vote		Additional or new provision required
			Free grant approved	Loan approved	
	£	£	£	£	£
1	45,000	61,640	45,000	—	16,640
2	5,000	7,000	5,000	—	2,000
3	95,000	133,000	—	95,000	38,000
4	7,500	10,500	7,500	—	3,000
5	34,000	73,000	34,000	—	39,000
6	25,000	85,000	—	25,000	60,000
7	21,000	29,400	21,000	—	8,400
8	—	—	—	—	—
9	6,000	8,400	6,000	—	2,400
10	439,428	483,700	—	—	483,700
TOTAL ..£	677,928	891,640	118,500	120,000	653,140

II.—ANNUAL DIVISION OF EXPENDITURE ON BASIS OF REVISED ESTIMATES

Schedule	Expenditure already incurred or about to be incurred	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year	9th year	10th year
	£	£	£	£	£	£	£	£	£	£	£
1	2,600	16,400	19,200	15,040	8,400	—	—	—	—	—	—
2	—	1,400	1,400	2,100	2,100	—	—	—	—	—	—
3	—	21,000	56,000	56,000	—	—	—	—	—	—	—
4	—	2,500	4,000	4,000	—	—	—	—	—	—	—
5	—	8,000	25,000	40,000	—	—	—	—	—	—	—
6	—	17,000	34,000	34,000	—	—	—	—	—	—	—
7	—	2,000	6,000	10,700	10,700	—	—	—	—	—	—
8	—	—	—	—	—	—	—	—	—	—	—
9	—	5,200	3,200	—	—	—	—	—	—	—	—
10	—	30,700	53,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
	2,600	104,200	201,800	211,840	71,200	50,000	50,000	50,000	50,000	50,000	50,000

Gross total for ten years (including expenditure already incurred: £891,640

(*Note.*—As indicated in paragraph 34 of the Sub-committee's Report, it is essential to stress that the plans set out in the schedules to Appendix A do not represent a comprehensive programme for the development of the Colony's water resources, but merely form the basic preliminaries to such development. It should not, therefore, be assumed that because the expenditure set out in the above table is shown as reaching its maximum in the third year there will necessarily be a drop in the actual rate of expenditure. Indeed the reverse will be the case and the position will be that by the end of the third year hydrographic investigations will be sufficiently advanced for a major programme of positive water development work to be embarked upon.)

APPENDIX B

Suggested Staff Required for Separate Water Department

(*See paragraphs* 23–28)

Expenditure from Revenue Funds—	£
1 Director of Water Development	1,350
1 Assistant Director	1,200
1 Senior Hydraulic Engineer	1,000
4 Assistant Hydraulic Engineers	2,745
1 Hydrologist (on contract)	1,200
3 Assistant Engineers (Hydrology)	1,920
4 Engineer-Geologists	3,280
1 Boring Inspector (£360 by £20 to £480 by £20 to £500) ...	500
1 Technical Assistant	630
10 Sub-surveyors	1,884
5 Sub-draughtsmen	872
1 Transport and Equipment Officer (£360 by £20 to £480 by £20 to £540)	360
1 Registrar of Water Rights (£600 by £30 to £720)	600
1 Computer (£440 by £20 to £540 by £20 to £600)	500
2 Clerks (European) 1 Grade I, 1 Grade II	800
3 Typists (Female), 1 Grade I, 2 Grade II	860
2 Clerks (Asian), Grade II	300
10 Clerks (African), 1 Grade I, 7 Grade II, 2 Learners ...	400
5 Water Bailiffs	2,500
60 Water Guards (African)	1,500
10 Water Readers (African)	290
1 Drawing Office Recorder (African), Scale B	36
1 Mechanic (Asian)	240
20 Drivers	720
6 Office Boys	90
Labour (say 80)	1,000
War Bonus, say	2,500
General Expenses	2,000
Expenses of District Water Board	100
Local Transport and Travelling	8,000
Travelling Allowances	800
Installation of Gauges	2,000
Equipment and Instruments	500
Tools and Plant	500
Preliminary Investigations of new works (drilling and testing foundations, etc.)	2,000
Total from Revenue Funds:	£45,077

Extraordinary Expenditure from Revenue Funds—	£
Lorries and accessories	6,000
Equipment and Instruments	4,000
Tentage, Huttage	1,300
Total:	£11,300

SUMMARY OF RECOMMENDATIONS, STATED OR IMPLIED, IN THE REPORT OF THE SUB-COMMITTEE ON SOCIAL WELFARE, INFORMATION AND MASS EDUCATION

I—OBJECTIVES

A—The Ultimate Object

That the Ultimate Objective of Government in the matter of Social Welfare should be the achievement of the maximum degree of economic prosperity, social contentment and creative power among *all* the individuals comprising society in the Colony, without regard to race, colour, means or station in life.

Note.—We are well aware that there are many schools of thought with regard to what the ultimate objective of a Government ought to be and that it may be held that in the matter of social welfare economic prosperity should be regarded not as part of an ultimate objective but as a means. However that may be, it is our view that since poverty of a massive and grinding nature, assessed by modern standards, is at present the most outstanding feature of African society almost everywhere in the Colony it would be unrealistic not to include economic prosperity in our concept of social welfare. We are reinforced in this view by the fact that though such poverty is beyond question an outstanding feature of that society, there would appear even to-day to be but little appreciation of its intensity by many of the few more fortunate members of society in the Colony. Furthermore, such poverty in many areas and for at least ten years past has been increasing and is still increasing.

B—Intermediate Objects

(i) That it should be an objective of Government so to develop the social system and so to organize the structure of society as to ensure harmony, the fullest freedom and opportunity for creative work, and opportunity for full employment for all and that *all social and economic development should be based on the paramount necessity of ensuring the fullest opportunities for the maintenance of family life.*

(ii) That it should be an objective of Government to develop local self-governing institutions as an essential means of attaining the ultimate aim.

(iii) That in the matter of health in relation to social welfare the objective of Government be based on and in accord with the modern conception of health as set out below:—

The modern conception of health indicates not only absence of disease but a maximum degree of physiological and mental efficiency. It embraces the evolution of our knowledge regarding the factors which make or mar human health and happiness. Its aim is economic prosperity, social contentment and creative power. But because of the legacy of ill health of the past, of the imperfec-

tions of our present system and the incidence of non-preventable disease and injury there will be for many years a secondary objective, the provision of adequate curative and rehabilitative care.

(iv) That, having regard to the fact that the great majority of the non-European population of the Colony is underfed, badly housed and poorly educated and can consequently neither play a proper role in the development of the Colony nor achieve that degree of well-being which a well organized society should aim to provide for its members, the improvement of this position be accepted as the immediate and major object of social policy and economic development in the Colony.

II—WELFARE SERVICES

That Welfare Services be classified as follows:—

A.—Non-Personal Welfare Services (Environmental Services).

B.—Personal Welfare Services.

(*a*) Personal promotive welfare services.

(*b*) Personal preventive welfare services.

(*c*) Personal curative welfare services.

(*d*) Personal rehabilitative welfare services.

The personal promotive welfare services being:

(i) adequate wages;

(ii) nutrition;

(iii) general education;

(iv) physical exercise and recreation;

(v) industrial welfare and hygiene.

III—ESTABLISHMENT OF A GOVERNMENT WELFARE ORGANIZATION

(i) That a central Government welfare organization be established which will be concerned with the promotion of the welfare of the members of *all* communities in the Colony.

(ii) That this organization be under the direction of a Chief Welfare Officer.

(iii) That the welfare organization should consist of the Chief Welfare Officer and such other Welfare Officers and Welfare Workers as may be necessary.

(iv) That the Chief Welfare Officer and, in due course, all Welfare Officers and Welfare Workers should have either—

(*a*) studied social science and its application to administration; or

(*b*) been trained in the application of the appropriate technical methods of social science to the solution of particular social problems.

(v) That the Social Welfare organization be under the control, or in the portfolio of a Member of the Governer's Council, who should also be the Chief Native Commissioner and should be designated the "Member for Welfare and Chief Native Commissioner". (Mr. Marchant disagrees with the latter part of this recommendation and Mr. E. R. Davies considers that specific arrangements should be made for the Asian community.)

(vi) That an Advisory Welfare Committee be appointed which should meet under the chairmanship of the Member for Welfare and comprise among its membership unofficial members of all communities.

IV—FUNCTIONS OF THE GOVERNMENT WELFARE ORGANIZATION

1. That save where other provision has been made, the Government Welfare organization be *executive* with regard to the provision or organization of those *personal promotive welfare services* which require for their execution or organization specially qualified staff which has been trained in social science or in the use of the technical methods of social science.

2. That where other provision has been made the Government Welfare organization be advisory or, if necessary, supervisory.

3. That with regard to personal preventive, curative and rehabilitative welfare services it be for consideration what services should be taken over from other departments by the Welfare organization, or what new services should be provided by the Welfare organization, but that in each case the principle indicated in II above should be followed (*vide* Report, Chapter III).

4. That with regard to *all* welfare services mentioned in II above, the Welfare organization should be so staffed and organized as to be in a position to advise Government and to assist and to exercise a profound influence on the Departments of State concerned, is so far as the policies of these departments affect the welfare of society.

V—FINANCIAL PROVISION, ORGANIZATION OF THE WELFARE SERVICE, RECRUITMENT AND TRAINING OF STAFF, AND THE POLICY OF THE WELFARE ORGANIZATION

We recommend:—

1. That Government should arrange for the provision of funds of at least the following order, to be expended on the establishment and maintenance of a Government Welfare organization and the provision of welfare services during the next five years: Capital expenditure, £250,000; recurrent expenditure, £650,000.

2. That on the return of Dr. C. R. Philip from South Africa this officer, if, as we understand, he has been selected to fill the post of Chief Welfare Officer, should together with the Information Officer prepare a detailed scheme for the establishment of a Welfare organization and, or incorporating, an Information Service, together with detailed estimates for 1946. Mr. Davies considers that the improvement of communications by means of publicity of Government activities within the Colony and of publicity about the Colony generally overseas should be further discussed between Government and the Information Office.

3. That in preparing their scheme or schemes and estimates these officers should be in no wise bound by any of the detailed proposals which have been submitted to this Sub-committee.

4. But that, bearing in mind that all social development planning is dependent on the collection, analysis and interpretation of social data, they should arrange for the recruitment and establishment of the nucleus of a central office staff equal to this work, and should give consideration to the engagement of Welfare Officers and should give special attention to the needs of the Asian community, and that consideration should be given to the appointment of an expert Asian Welfare Officer. (Mr. Gathani considered that an Asian Welfare Officer should definitely be appointed.)

5. That for district work they should endeavour to make provision for as large a proportion of qualified welfare officers as possible.

6. That while it may be necessary to undertake a certain amount of preventive, curative and rehabilitative social work it is imperative that with the least delay personal promotive welfare services should be provided, that the most important of these services at the present time would appear to be services directed towards the provision of mass adult education among all communities, as indicated in our Report, and that consideration should be given from the beginning to the inducement of adult literacy on a wide scale.

7. That the Information Office should continue as an essential part of the Welfare organization.

8. That with these objects in view a matter for early consideration and action is the provision for the systematic instruction and training in a suitably equipped and organized school or schools of African welfare workers.

9. That the said estimates be reviewed by the Advisory Welfare Committee before submission to Government.

VI

That a permanent, independent, expert Advisory Social and Economic Planning Council should be established, preferably on an East African basis and at the level which we have suggested in our Report, at the earliest possible date, and that one of the duties of this Council should be to determine whether the proposals which we have so far made are adequate.

VII

That the question of Regional Planning be referred to the Kenya Town Planning Officer on his arrival.

VIII

That Government arrange, in accordance with a recommendation already transmitted by us to Government (which has since received the support of the Committee which has reported on labour unrest in Mombasa), for the institution of an expert socio-economic survey of, in the first instance, Nairobi and Mombasa, and that the estimates submitted in this Report should be expanded to include the cost of such survey.

IX

We further recommend that a similar socio-economic survey should be instituted as soon as possible with regard to all agricultural employees and resident labourers.

X

We desire also to recommend that arrangements should be made to establish, under a competent librarian, a library of books, periodicals, reports and papers dealing with social science, social welfare, Colonial history and administration. If it is considered that this service could be most efficiently and conveniently undertaken by the Information Service, suitable financial provision should be made.

XI

In conclusion, we recommend that if it be proposed to ask for financial assistance from the Colonial Development and Welfare Fund in respect of any of the services which we have recommended, it should be noted in the application that the proposals are of a preliminary nature and that much larger proposals for extension of these services will be made at a later date.

A. R. PATERSON (*Chairman*),
G. A. S. NORTHCOTE
(*Subject to Minority Report*)
A. M. CHAMPION,
ELIUD MATHU,
BACHULAL GATHANI,
B. P. FENWICK,
C. B. ANDERSON,
W. S. MARCHANT,
(*Subject to Minority Report*)

Mr. R. S. Foster, Director of Education, was originally a member of the Sub-committee, but his retirement before completion of the Report prevented his signing it. Mr. C. E. Donovan, who took his place for the last meeting of the Sub-committee, while not signing the Report, wishes it to be recorded that he is in entire agreement with the recommendations.

Mr. E. R. St. A. Davies, Information Officer, left the Colony on leave before the Report was available for signature, but he subscribes to its terms.

K. W. SIMMONDS, *Secretary*.

8th February, 1946.

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